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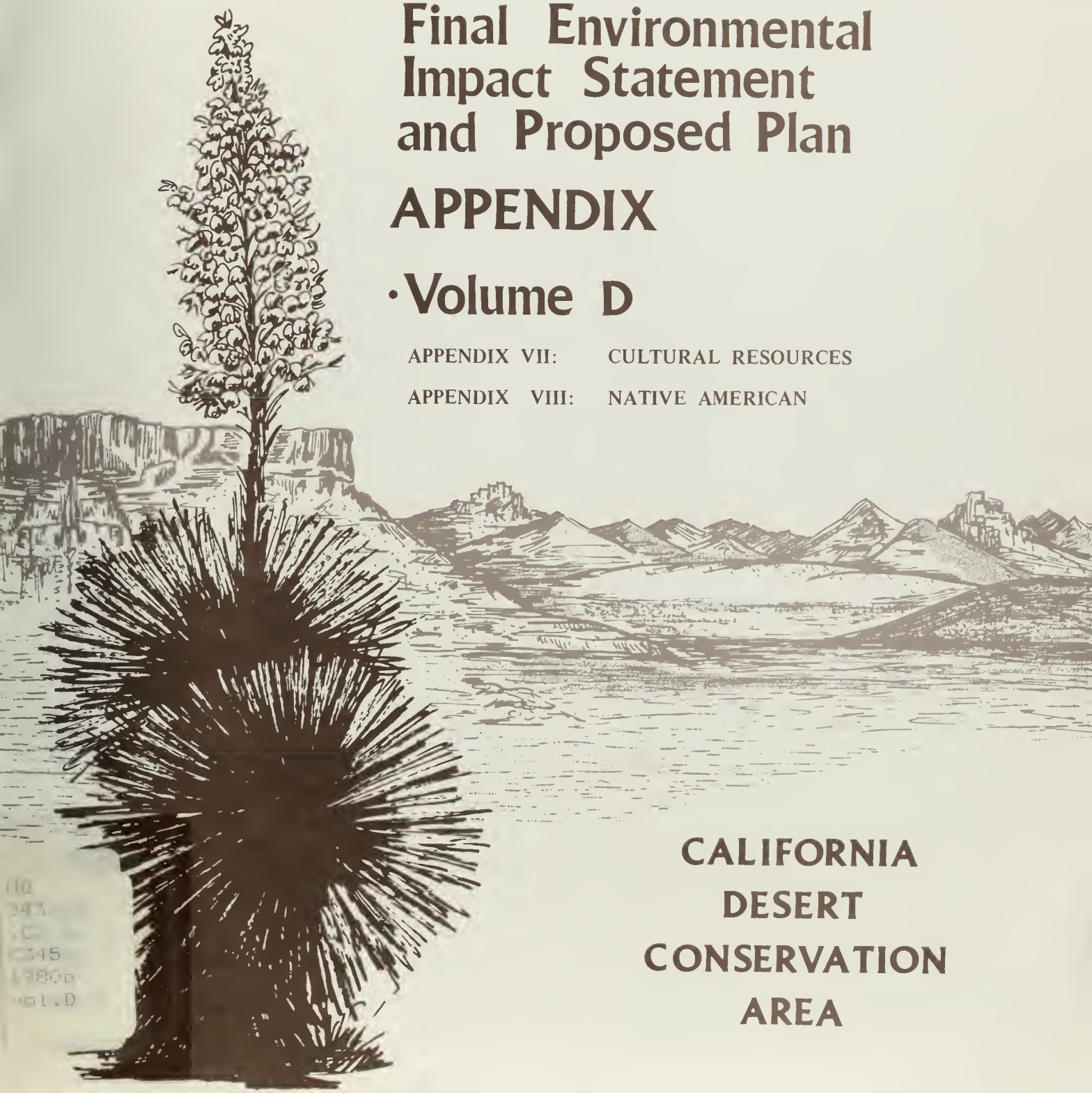
Final Environmental Impact Statement and Proposed Plan

APPENDIX

Volume D

APPENDIX VII: CULTURAL RESOURCES

APPENDIX VIII: NATIVE AMERICAN



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APPENDIX VII

CULTURAL RESOURCES

APPENDIX VIII

NATIVE AMERICAN

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Table of Contents

VOLUME D

Book	Title	Page
VII	Cultural Resources	1
VIII	Native American	85

APPENDIX VII

CULTURAL RESOURCES

Table of Contents

APPENDIX VII

CULTURAL RESOURCES

Part	Title	Page
1	Draft Programmatic Memorandum of Agreement Between the Department of the Interior, Bureau of Land Management, the California State Historic Preservation Officer and the Advisory Council on Historic Preservation Regarding the California Desert Plan Implementation and Monitoring Process	1
2	Cultural Resource Program: Methodology	9
3	Cultural Resource Program: The Archaeological (Prehistoric and Historic) Record	25
4	Cultural Resource Sensitivity/Significance Determinations	32
5	Mitigation	45
6	Cultural Resource Protection Measures	54
7	Mitigation Plans	60
8	Monitoring Program	64
9	Cultural Resource Management Plans	66
10	Research Designs	69
11	Educational Awareness	71
12	Existing Federal Legislation/Bureau Policy Regarding Cultural Resources Relative to the California Desert Conservation Area	74
	References	80

List of Tables

APPENDIX VII

Table	Title	Page
VII-2-1	Estimated Number of Recorded Sites Within the CDCA	11
VII-2-2	Regional California Desert Conservation Area Archaeological Survey Techniques	14
VII-2-3	Desert-Wide Archaeological Site-Type Counts - BLM Inventory	15
VII-2-4	Desert-Wide Archaeological Sites With Various Recorded Features - BLM Inventory	16
VII-2-5	Desert-Wide Archaeological Sites With Various Artifacts - BLM Inventory	17
VII-2-6	Desert-Wide Archaeological Sites According to Landform - BLM Inventory	18
VII-5-1	Appropriate Mitigation Measures for Proposed Activities	46
VII-5-2	Mitigation Guidelines	51

APPENDIX VII
CULTURAL RESOURCES

Part 1

DRAFT

Programmatic Memorandum of Agreement Between the Department of the Interior, Bureau of Land Management, the California State Historic Preservation Officer and the Advisory Council on Historic Preservation Regarding the California Desert Plan Implementation and Monitoring Programs.

WHEREAS, the Department of the Interior, Bureau of Land Management, administers public lands within the California Desert Conservation Area, under the concept of multiple-use and sustained yield under the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701), which also charges the Bureau of Land Management with the management and protection of cultural resources; and

WHEREAS, Section 106 of the National Historic Preservation Act (16 U.S.C. 470f, as amended, 90 Stat. 1320) requires that the head of any Federal agency having direct or indirect jurisdiction over a proposed Federal, federally assisted, or federally licensed undertaking affecting properties in or eligible for the National Register of Historic Places shall afford the Advisory Council on Historic Preservation (hereafter Council) a reasonable opportunity for comment; and

WHEREAS, various land use activities undertaken or authorized by the Bureau of Land Management may have an effect upon properties on or eligible for the National Register of Historic Places and will require compliance with Section 106 of the National Historic Preservation Act, Section 2 of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment," and the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800); and

WHEREAS, the Bureau of Land Management is presently in the process of implementing a land use plan and has established methods for regularly amending the plan within the mandates of the law (FLPMA, Sec. 601), and

WHEREAS, the Bureau of Land Management has established long-range provisions to monitor cumulative results of impacts on cultural resources as a result of plan implementation; evaluate the plan's manageability; and assess changes that affect the plan's relevance and fitness; and

WHEREAS, the Bureau of Land Management has established a cultural resource program designed to inventory, evaluate, plan, and manage cultural resources with program objectives to: protect and preserve representative samples of the full array of cultural resources for the benefit of scientific and socio-cultural use by present and future generations, ensure that cultural resources are given full consideration in all land-use planning and management decisions; manage cultural resources so that scientific and socio-cultural values are not diminished, rather maintained and enhanced, and ensure that the Bureau's undertakings avoid inadvertent damage to cultural resources, both Federal and non-Federal (BLM Manual 8100.02); and

WHEREAS, it is Bureau of Land Management policy that the Bureau, in the upland management programs, protects and manages the cultural resources under its jurisdiction or control, and avoids inadvertent loss or destruction of cultural resources (BLM Manual 8100.06-A); and

WHEREAS, it is Bureau of Land Management policy that cultural resources are recognized as fragile, nonrenewable resources with scientific and socio-cultural values, representing an important and integral part of our Nation's heritage and BLM is responsible for the largest remaining cultural resource base on Federal lands, and must develop and maintain the capability needed to manage these resources; and

WHEREAS, the Bureau of Land Management has developed a plan for the California Desert whereby public lands are divided into four principal classes of land use and resource protection, each class varying through guidelines in the nature of allowable activities; and

WHEREAS, the Bureau of Land Management has identified a number of Areas of Critical Environmental Concern within the California Desert where special management attention is required to protect and prevent irreparable damage to critically important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect human life and provide safety from natural hazards (FLPMA Section 103 a); and

WHEREAS, the Bureau of Land Management has identified in the California Desert, through the planning process, cultural resource sensitive/significant areas, to provide further information for conflict resolution in decision making where archaeological, historic or Native American resources and proposed land use activities are incompatible; and

WHEREAS, the Bureau of Land Management will manage the sensitive/significant cultural resources areas according to Cultural Resource Management Plans (CRMP's) and Mitigation Plans consistent with class guidelines and will follow 36 CFR 800 procedures where conflicts arise; and

WHEREAS, the Bureau of Land Management will encourage research of cultural resources and provide necessary opportunities and support as feasible for the present and future study of prehistoric and historic resources; and

WHEREAS, the Bureau of Land Management will stabilize or restore prehistoric and historic resources where appropriate and feasible within the parameters of this agreement; and

WHEREAS, the Council and the Bureau of Land Management have met and revised the California Desert Plan in relation to compliance with Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593, as implemented by the Council's regulations (36 CFR Part 800) and the responsibilities for historic and cultural resources under the National Environmental Policy Act of 1969 (42 U.S.C. 4321) as implemented by the Council on Environmental Quality in the "National Environmental Policy Act Regulations" (40 CFR Parts 1500-1508); and

WHEREAS, the Council's regulations, 36 CFR 800.8 provide for the development of Programmatic Memoranda of Agreement on a program or class of undertakings (excluding those where additional Environmental Analysis Records and Environmental Impact Statements are required) which would otherwise require numerous individual requests for comments;

NOW, THEREFORE, it is mutually agreed that the Bureau of Land Management will ensure, through the stipulations outlined in this Programmatic Memorandum of Agreement, that historic and cultural properties will be given adequate consideration in all land use and land tenure adjustment program decisions and implementation which include, but are not limited to, the preparation of Environmental Analysis Records and Environmental Impact Statements, thereby meeting its responsibilities under Section 106 of the National Historic Preservation Act.

STIPULATIONS

1. The provisions of this Programmatic Memorandum of Agreement shall apply only to the California Desert Conservation Area (CDCA).

2. The Bureau of Land Management will review and, as needed, update and/or supplement the Class I (existing data) inventories of cultural properties periodically (minimally every 10 years) initiating the first update/supplement in FY85. The Bureau also will supplement the Class II inventories, following guidelines specified in BLM manual Section 8111, with further systematic and purposive inventories on a yearly basis. These inventories will be undertaken on a project specific basis or where conflicts are predicted or anticipated. Those areas with the greatest anticipated conflicts will be given the highest priority in the inventory effort. Contingent on budget allocations, 2,000 acres per resource area should be inventoried each year.

3. Evaluation of prehistoric-historic and Native American properties, in consultation with the State Historic Preservation Officer, for the purpose of identifying those to be included in or eligible for

inclusion in the National Register of Historic Places will be a continuing function of BLM during plan implementation. With the exception of those properties encountered within individual projects, the eligibility/ nomination process will concentrate, for at least the first five years following plan initiation, on those areas with the highest impact risk (e.g., within Classes M and I and Areas of Critical Environmental Concern). Exceptions include those locations which are part of a larger National Register district or are components of widespread thematic properties. The Bureau will make every reasonable effort to submit at least two properties per year per California Desert District Area Office.

4. Principal documentation for determinations of eligibility of nominations will include overviews, special studies, site records and other materials on file with BLM and other agencies or institutions.

5. Properties submitted for eligibility determinations or formal nominations will be those located wholly or principally on public lands, unless they fall within an area affected directly by a Federal or federally assisted action, activity or program.

6. The level of documentation submitted for eligibility determinations will be concise and informative following guidelines presented in 36 CFR 1204, Appendix A. Properties determined to be eligible for inclusion in the National Register will subsequently be nominated within a reasonable amount of time. Formal nominations will follow official (36 CFR 1202) guidelines as well.

7. Properties submitted for nomination will be considered on a regional basis, consistent with the regional approach utilized by BLM in their cultural resource overviews, special studies and inventories, unless they fall within the purview of a specific project.

8. As projects are completed during plan implementation (where an EAR or EIS is required), this Programmatic Memorandum of Agreement and any cultural resource inventory/evaluation reports completed for the project will be referenced in the environmental document.

9. Prior to the commencement of any Bureau undertaking or assisted action, activity, or program that would involve land disturbing activities that would affect federally managed and/or non-federally managed cultural resources, the Bureau will assure that inventory of the affected properties will be conducted by an archaeological technician or professional archaeologist approved by the Bureau of Land Management. This inventory, as specified in BLM Manual Section 8111.4, will be of sufficient extent to locate, identify and evaluate properties in the potential impact area that may be eligible for inclusion in the National Register. Inventories will be conducted in stages and they will range from 10 to 100 percent, or as agreed upon in consultation with the State Historic Preservation Officer. Following completion of the initial phase of work, appropriate and

subsequent inventory levels, if needed, will be determined in consultation with the State Historic Preservation Officer.

10. The Bureau will assure Native Americans' participation throughout the cultural resource planning process. The policies and requirements outlined in the California Native American MOU will be implemented where applicable for resource identification, evaluation, mitigation and management in the California Desert.

11. The Bureau of Land Management will provide for stable and beneficial patterns of public land use and will pursue the acquisition of lands which would be more beneficially maintained under Bureau control. To accomplish this program it may become necessary for the Bureau to relinquish management responsibility of certain lands in order to gain management responsibilities over other lands. To ensure that the Bureau is in compliance with Executive Order 11593 and 36 CFR 800, the following approach shall be taken on all lands within the California Desert Conservation Area:

    a. Whenever lands are granted to or exchanged with State or Federal agencies for a nonconsumptive use, a literature search and resource assessment shall be undertaken by the Bureau to assist in insuring resource integrity in the transfer process. Whenever lands are conveyed to the State of California, the State may, at their option, conduct an inventory to Bureau Class III standards unless otherwise decided upon in consultation with the SHPO and Council.

    b. Whenever lands are granted to or exchanged with a State and Federal agency for a consumptive use, an inventory equivalent to Bureau Class III standards shall be conducted by the recipient agency under a cooperative agreement, unless otherwise decided upon in consultation with the SHPO and Council.

    c. Whenever lands are conveyed to private landholders the following procedures will be followed. If agreeable with the Bureau, SHPO, Council and proponent inventory may be deferred until the proponent's actions will impact cultural values. All such agreements will be formalized in a Memorandum of Understanding signatory by all parties. If such an agreement is infeasible the following inventory levels will be initiated:

        i) On acreage of one section (640 acres) or less the Bureau shall conduct a Class III Cultural Resource Inventory.

        ii) On acreage between one section (640 acres) and 5,000 acres. a special sampling program can include random systematic or stratified sampling, judgmental reconnaissance, and/or unsystematic survey. This can include, at the Bureau's option. a manual standard Class III inventory.

iii) On tracts greater than 5,000 acres a Class II inventory will be conducted at the 25 percent level prior to any land transfer. The sharing of costs will be agreed upon by the Bureau and the project proponent to complete the required inventory/evaluation effort.

iv) On all lands slated for direct sale to private landholders or to municipal jurisdictions a Class III Cultural Resource Inventory shall be undertaken.

d. All lands conveyed to the Bureau will be evaluated by a Bureau cultural resource specialist prior to the land tenure adjustment action to determine cultural resource management feasibility.

12. The Bureau of Land Management will provide the State Historic Preservation Officer with copies of inventory reports in accordance with Sections 102 and 202 of the Federal Land Policy and Management Act of 1976 for inclusion as part of the State inventory, conducted pursuant to 36 CFR 1201.

13. Where it is not prudent or feasible to avoid adverse effects on properties included in or eligible for inclusion in the National Register of Historic Places as part of the plan implementation process, and the property is not a National Historic Landmark, National Historic Site, or National Historic Trail, the Bureau of Land Management will consult with the State Historic Preservation Officer and will:

a. Develop measures to mitigate the impacts of the proposed action, providing for appropriate levels of mitigation from adverse effects for specific properties. The mitigation measures will include, as appropriate, provisions for data recovery, curation, detailed recording, stabilization, and relocation; and

b. Provide the Council copies of mitigation agreements and plans reached in accord with the State Historic Preservation Officer. The Council need not be afforded further opportunity for review and comment.

14. If it is determined that an affected property is a National Historic Landmark, National Historic Trail, or National Historic Site, and agreement cannot be reached between the Bureau of Land Management and the State Historic Preservation Officer on satisfactory mitigation measures, the Bureau of Land Management will request the comments of the Council in accordance with 36 CFR Part 800.

15. Cultural resources will be considered equally with other resources in an environmental awareness program and tied in with the interpretive component of the Recreation Element. Educationally oriented brochures, pamphlets, monographs and other works of a popular and technical nature emphasizing the relevance, fragility, and other

values of cultural resources will be printed and distributed to the public during plan implementation stages. Only those works which do not include site-specific information will be distributed, unless the sites are considered adequately protected. Interpretive facilities will be developed at well-protected cultural sites as deemed appropriate by staff archaeologists in consultation with the State Historic Preservation Officer.

16. Activity plans (Cultural Resource Management Plans) will be completed for cultural resources defined as worthy of preservation protection on a priority basis. First priority is culturally oriented "Areas of Critical Environmental Concern," and second "Element Areas" defined as locations of high to very high cultural resource sensitivity/significance. Such plans will detail measures necessary to protect and maintain the cultural values. Plans will be completed on a priority basis as program resources are available. Wherever feasible CRMPs will be completed with other activity planning efforts and will be given the same consideration as other resource values in the planning effort. An integral part of the activity planning effort will be the emphasis on stabilization and restoration of select prehistoric-historic features and structures.

17. In those situations where no CRMP has been developed but where sensitive/significant cultural resources are subject to adverse impacts, special mitigation plans will be completed (in consultation with the SHPO and Council) detailing steps necessary to recover the values or otherwise ameliorate the impacts. These plans will be completed and implemented by the cultural resource specialists on a priority basis subject to the resources available from the BLM program or programs (activities) involved.

18. Cultural resources will be considered a major component in a California Desert Conservation Area resource monitoring program. The program will (1) assess the effectiveness of the desert management guidelines; (2) provide protective surveillance of sites with a greater risk of impact; and (3) develop baseline information on the types and extent of impacts to prehistoric-historic remains from various activities.

19. The Bureau of Land Management will encourage anthropological and historic research within the California Desert. Support will be provided for well-directed research with monies as available and by processing Antiquity Permit applications in a timely fashion.

20. The Bureau of Land Management will establish, develop and coordinate a volunteer program for cultural resource work in the California Desert. The program will be implemented upon approval of a Bureau-wide volunteer program. To the extent feasible volunteers will be used in inventory, implementation of protective devices, monitoring, surveillance, public interpretation, and in other tasks as appropriate.

21. The Bureau of Land Management will hire such professional archaeologists and historians as are required to maintain full professional standards in the implementation of the Memorandum of Agreement. Archaeological or historical technician level staff will be subject to general supervision and report review/evaluation by the Desert District and BLM State Office professional staff.

22. The Bureau will protect all sensitive, confidential or propriatory Native American, historic or archaeological data, by not allowing site specific information to appear in environmental or other documents or publications.

23. The State Historic Preservation Officer will provide the Bureau of Land Management comment on each action as requested within 30 days of receipt.

24. The Council and the Bureau of Land Management will review the provisions of this Agreement on an annual basis to determine whether modification or termination is appropriate. When the plan is formally amended, the ratifying parties will mutually determine whether the provisions of the Agreement will continue to apply or should be amended. This agreement is effective on the date of the last signature.

Part 2

Cultural Resource Program: Methodology

The process of cultural resource data collection, inventory, analysis, and report preparation geared toward desert planning has been ongoing since 1969. Approaches and methods have altered over the years as the planning process has changed, according to the orientation of the various lead archaeologists, and in concert with theoretical and methodological advances in the concerned disciplines.

In 1969 BLM contracted with Archaeological Research, Inc. for a purposive survey of the California Desert. This brief inventory resulted in the surface collection of a number of artifacts from many sites, as well as collections from excavations in several sites. Approximately 3,000 acres where inventoried. Little work ensued between this work and 1973 when Margaret Weide completed a proposed methodology for inventorying the California Desert. This work provided the basic assumptions and objectives behind the subsequent fieldwork.

The assumptions developed by Weide relate to an association between cultural and economic resources. These associations are expected to vary through time, between cultural groups, and with different levels of socioeconomic organizations. An added assumption is that certain historic resources are relatively randomly distributed. This is the result of the modernizing society overcoming or neutralizing the environmental constraints.

Also, it is assumed that there have been some social and ideological influences on human settlement and activities. With some exceptions, these assumptions seem justified within the context of the small sample completed during this project.

The major objective of the prehistoric and historic field studies is the location of cultural resources through a systematic sampling program in such a manner that the cultural resources specialists would be able to confidently predict other archaeological (prehistoric-historic) locations. The degree of specificity of prediction and the measure of confidence vary by region. More will be said about this. Predictions are based on a correlation of archaeological sites with variables of water resource and biogeography. Actual site location and prediction of site occurrence serve to aid in the evaluation of individual sites and groupings of sites as to their relative significance and sensitivity. This process is done with an eye toward preservation and protection and an increased understanding of earlier desert peoples.

The cultural resource program is both regional and areal in perspective. It is regional in the sense that the environmental complexity and variation of

the desert necessitate some control, best effected through a division into relatively homogeneous or natural subdivisions. And it is areal in the sense that there is a general measure of similarity between regions (i.e., desert conditions and a planning effort directed toward the whole).

Prior to, or in conjunction with the field surveys, regional cultural resource overviews were completed. In part, these overviews provide for informed and well-directed field sampling. (It should be quite obvious that the immensity of the desert, the paucity of previous investigations and the time, labor and budgetary constraints necessitated a sampling approach.)

During this project seven regional cultural resource overviews were completed under contract. These overviews synthesize regional archaeological, ethnological, ethno-historical and historical data, discuss past and projected research, highlight significant cultural/environmental interrelationships, and identify research and management questions and needs. In some cases overviews provide only superficial coverage of important facets of the desert or do not give the necessary desert-wide perspective. In these cases special studies oriented toward certain cultural topics were deemed necessary as part of the planning process.

Completed studies include overviews of the Yuha Desert (Wilke et al., 1974), El Paso/Red Mountain desert region (Hall and Barker, 1975), East Mojave (King and Casebier, 1976), Southwest Great Basin (Norwood, Bull, and Quinn, 1978), Western Mojave (Stickel and Weinman, 1979), Northeast Mojave (Warren, Knack, and Weinman-Roberts, 1980), and Colorado Desert (Crabtree, Warren, and Knack, 1980). Special reports include a study of California desert rock art (Eastvold, 1974), a study of historic trails and wagon roads (Warren and Roske, 1978), an analysis of historic faunal remains from Inyo County sites (Schulz, 1977), a compendium of early historic accounts of desert travelers and events (Casebier, 1978), "A History of Land Use in the California Desert" (Norris and Carrico, 1978), an overview of the history of mining in the California desert (Shumway, Vredenburgh, and Hartill, 1980), an overview of early human occupation and activities in the California desert (Davis, Brown, and Nichols, 1980), and an assessment of impacts to cultural resources (Lyneis, Weide, and Warren, 1980).

Throughout the planning process the Desert Planning Staff has developed a library and archives containing publications on desert anthropology, history, environment, and other pertinent works. More importantly, various unpublished documents and reports relating to archaeological surveys, excavations, and studies of local history and prehistory are on file. A catalogue of the approximately 14,200 archaeological site records of the entire California Desert Conservation Area (with accompanying maps) is stored at the Desert District headquarters, and an extensive photographic collection is maintained.

Table VII-2-1
ESTIMATED NUMBER OF RECORDED
SITES WITHIN THE CDCA[1]

COUNTY	Estimated Number Of Recorded Sites
San Bernardino	3,500
Riverside	875
Inyo	2,300
Mono	4
Imperial	4,200
Los Angeles	100
Kern	250
Anza-Borrego Desert State Park	3,000
CDCA TOTAL	14,229

[1] as of January 1, 1980

The information stored has been helpful in properly directing the fieldwork, in completing the overviews and certain of the other studies, and in undertaking the analysis and write-up of the cultural resource element of the plan. During the process many knowledgeable individuals, agencies, institutions, and groups have been contacted for input to the planning process. In addition various presentations to professional and other groups have been made, and input solicited.

The field sampling regions correspond rather well with the overview regions. However, some of these regions have been further subdivided into separate zones for better control in the sampling and because of administrative reasons. The actual inventories were undertaken by BLM contractors within the Northeast Mojave (Coombs, 1979a), Western Mojave (Coombs, 1979b), Central Mojave and Colorado deserts (Gallegos et al., 1979b), and Mojave Basin region (Brooks et al., 1979). The remaining desert areas (Yuha, eastern Colorado, western Colorado, East Mojave, Southwest Great Basin, and El Paso/Red Mountain) were inventoried by the DPS cultural resources specialists. In the case of Anza-Borrego Desert State Park a cooperative survey was undertaken by

park archaeologists. Formal fieldwork in all areas was carried out between the spring of 1974 and the winter of 1978-79.

In the first few years of the program the field methodology employed differed considerably from subsequent studies. The El Paso/Red Mountain, East Mojave, Saline Valley and, partly, the Yuha Desert regions were inventoried at approximately the 1-3% level. The square mile section was the investigative unit. Units were selected randomly by topographic quadrangle or through systematic placement within environmental zones believed relevant to the undertaking of differing prehistoric and/or historic activities. The archaeologists would locate themselves on the ground by utilizing bench marks, landmarks, compass bearings, etc. and then proceed within the unit in an approximately linear fashion up and back at 200 meter intervals, recording all prehistoric and historic remains over 35 years of age as well as pertinent environmental information (vegetation, landform, water resources, etc.). One hundred and twenty-eight square mile sections were surveyed in this manner. Supplemental opportunistic sampling complemented the fieldwork throughout the inventory period.

With a change in administrative policy outlook during 1976 and with positive and negative feedback from other sampling approaches, the methodology was altered for the remaining 75% or so of the desert. This new methodology included the use of transects 1/8th mile wide and one mile long oriented according to the cardinal directions. Sampling varied by study region and investigator but generally included systematic or random stratified sampling in the first stage coupled with second and even third stage sampling directed at smaller blocks or zones. The subsequent stages were aimed at clarifying information gained in the first stage or filling data gaps(Table VII-2-2).

During transect inventory, two individuals swept in linear fashion up and back spaced at 50-meter intervals. This technique, applied regionally at the 1/2 to 2% level (1% overall desert-wide) allows greater precision of measurement and more on-the-ground observations than the previous method. Twelve-hundred and six transects were inventoried during the project.

In total, about 280 square miles were systematically inventoried using all approaches, and approximately another 50 square miles were inventoried intuitively or during transit to and from survey units.

During the fieldwork, special forms were utilized (as alluded to previously) which detailed both the locational, environmental, and cultural information for the sample unit, as well as the equivalent information for each site. Special records for prehistoric and historic sites were developed. Photo documentation was also undertaken. Examples of the forms, site definitions, and categories utilized are appended. A key to the environmental variables employed is on file with BLM, Riverside, Calif. For purposes of analysis, all sample unit and site record information obtained during DPS inventories was computerized on a Data General Eclipse System. Specific statistical routines were developed under contract with the Institute for American Research (formerly ARI) to help with the eventual data analysis. These routines include stepwise regression. analysis of covariance, Kendall's Tau,

cross tabulation, regression/correlation, Spearman's r, analysis of variance, Fisher's exact test and Chi-square test. Computer programs also were developed to correlate up to three separate variables within the DPS sample of 2,903 historic and prehistoric sites. These variables include locational, environmental, and cultural information. (cf. Tables VII-2-3,4,5,6)

TABLE VII-2-2
REGIONAL CALIFORNIA DESERT CONSERVATION AREA
ARCHAEOLOGICAL SURVEY TECHNIQUES

	EP/R	EM	Sa	Yu	Da	Pm	Eu	P-W	NM	MB	WM	CC	S/O	Im	AB
% Inventoried (Probability)	2[1]	1.4	3	1.7	1.1	1.1	1.1	1	1	1.1	0.6	0.5	0.7	9[1]	2.8
Sample unit															
sq. mi.	X	X	X	X											
1/8th x 1 mi.				X	X	X	X	X	X	X	X	X	X	X	X
Methodology															
Stratified-Random	X	X	X	X					X[2]	X	X				X
Stratified-Systematic				X	X	X	X	X	X[3]			X	X	X[2]	
Systematic														X	
Purposive	X	X	X		X	X	X			X		X		X	
Sampling Domains															
Biogeograph.	X[2]	X	X	X	X	X	X	X	X	X	X	X	X	X[2]	X
Quadrangles	X[3]													X[4]	
Historic use								X					X		
Single Stage					X	X	X						X		
Multiple Stage (Excluding purposive survey)	X	X	X	X				X	X	X	X	X		X	X
No. of Arch. Sites	305	372	213	171	196	122	85	249	187	151	141	151	62	88	509

[1]Includes geothermal surveys; [2]Stage 2; [3]Stage 1; [4]Study Area.

KEY: EP/R=El Paso/Red Mtn.; EM=East Mojave; Sa=Saline; Yu=Yuha; Da=Darwin; Pm=Panamint; Eu=Eureka; P-W=Picacho/Big Maria/Whipple Mtns.; NM=Northeast Mojave; MN=Mojave Basin; WM=Western Mojave; CC=Central Colorado; S/O=Santa Rosa/Orocopia; Im=Imperial; AB=Anza Borrego.

Table VII-2-3
DESERT-WIDE ARCHAEOLOGICAL SITE-TYPE COUNTS - BLM INVENTORY

SITE TYPES	Number Of Sites
Village	27
Temporary Camp	426
Shelter/Cave	163
Milling Station	262
Lithic Scatter	689
Quarry Site	30
Pottery Locus	67
Cemetery	0
Cremation Locus	2
Intaglio	1
Rock Alignment	11
Petroglyph	57
Pictograph	0
Trail	41
Roasting Pit	342
Isolated Find	311
Cairn	18
Historic	319
Other	49
Multiple	88
TOTAL	2,903

Table VII-2-4
DESERT-WIDE ARCHAEOLOGICAL SITES WITH VARIOUS RECORDED FEATURES - BLM INVENTORY

SITE TYPES	Number Of Sites
Structural Depressions	7
Rock Ring	91
Rock Structures	78
Cairn/Shrine	60
Roasting Pit/Fire Affected Rocks	285
Hearth	36
Petroglyph	58
Pictograph	6
Bedrock Mortar	11
Grinding Slick	117
Other (including historic)	201
None	1,569
Multiple	384
TOTAL	2,903

Table VII-2-5

DESERT-WIDE ARCHAEOLOGICAL SITES WITH VARIOUS RECORDED ARTIFACTS - BLM INVENTORY

ARTIFACT	Number Of Sites
Projectile Point	39
Flaked Stone Tool	194
Core - Detritus	624
Milling Tool	229
Other Ground Stone	6
Ceramic	116
Bone	1
Penshable	1
Ornament	0
Historic	281
Other	4
None	620
Multiple	788
TOTAL	2,903

Table VII-2-6
DESERT-WIDE ARCHAEOLOGICAL SITES ACCORDING TO LANDFORM - BLM INVENTORY

LANDFORM	Number Of Sites
Mountain	95
Hill	150
Terrace	68
Ridge	87
Alluvial Fan	405
Canyon	32
Arroyo	43
Sand Dune	81
Desert Pavement	29
Badlands	1
Playa	52
Other	167
None Specified	9
Multiple Landforms	1,684
TOTAL	2,903

An added technique of analysis included the plotting of site and environmental information on mylar overlays. Utilizing a base map, this method allowed for qualitative evaluation of various correlations not derived in the more formalized statistical methods.

Following completion of the inventory effort, all data were assembled and organized and some were computerized and/or mapped. Various analyses (some preliminary) were completed. Subsequently, several meetings were held with BLM and non-BLM archaeologists and historians to discuss the development of

criteria for mapping sensitive/significant cultural resources before plan alternatives and classes were formulated.

FIELD INVENTORY RESULT SUMMARY

While a brief synthesis of the existing cultural resource environment was previously presented, a more detailed summary from a regional perspective is warranted within the context of this document.

In the El Paso Mountain area, the first planning unit to be surveyed (1974), an extremely rich archaeological zone was found, centered within the El Paso Mountains. Large open campsites occur along the mountain base as do extensive chalcedony quarries. Rockshelters, cremation shelters, petroglyphs, rock rings and milling stations are common. The Rand Mountains contain a well-documented mining area, in which the Yellow Aster mine is most famous.

In the adjoining Red Mountain Planning Unit of western San Bernardino County seasonal aboriginal occupation was inferred, from archaeological remains, to be focused around the Lava Mountains and Inscription Canyon. Included in the discoveries are village sites, rock art complexes, occupation rockshelters, and others. As one progresses south onto the broad alluvial flats just north of Kramer, only small prehistoric stone workshops or cooking stations are found. The Trona Railroad and its construction camps, the Spangler Hills Mining District and the famous 20-Mule Team Road are important historical features.

The east Mojave represents an area where, relatively speaking, the most field input was accomplished (cf. Hanks and Binning, 1976). A tremendous array of prehistoric (87%) and historic (13%) sites were encountered. A majority of these sites are lithic scatters, the most frequent site type in the desert. However, this area of the desert has the highest proliferation of rock art sites, a tremendous array of mining camps, the Old Government Road with associated forts and redoubts, and numerous other complex sites. This is certainly an area with one of the highest site densities and diversity indices, although sites tend to be clustered subregionally.

Another area exhibiting a high site density is the Yuha Desert. Along with the Calico location, this desert has been the scene of many archaeological discoveries of proposed Pleistocene ("Early Man") age. However, the vast majority of sites found relate to later prehistoric activities. Old shorelines of Lake Cahuilla, mesquite groves, springs and transitional vegetation communities of the mountains and valley desert edge were focal spots of habitation and subsistence activities. Statistical tests run indicate a tendency for habitation and special purpose sites to be associated with one another in this area, adding credibility to the settlement/subsistence models proposed in the overview and by other researchers. Collectively the tests seem to point toward the spring as a critical limiting factor with respect to prehistoric activity in much of the Yuha Desert. This is a bit surprising considering the known influence of Lake Cahuilla.

In neighboring Anza-Borrego Desert State Park, cooperative surveys have revealed site densities which on an average exceed 25 sites per square mile. These are primarily roasting pits and milling stations, but there are also other sites. This rich area extends north and south into Federal public lands.

The basin and range planning units west of Death Valley represent an environmentally rich area where a number of major aboriginal settlements were located. The influence of the Sierra Nevada, Owens River, Owens Lake, and several major streams and springs can be seen in the archaeology. This is also a key area in the development of Great Basin and Mojave Desert cultural chronology as exemplified by the China Lake, Rose Spring and Stahl sites. A number of other major locations of a similar nature have yet to be professionally tested. Rock art reaches a developmental climax in the California Desert in parts of this region. The junction of fan/pediment and mountain slopes, and playas and fans seems to be a particularly significant aspect of regional archaeology. The Darwin Plateau, on the other hand, was found to be generally lacking in prehistoric sites, probably attributable to an absence of water sources. The influence of the pinyon-juniper environment on prehistoric activities is quite evident and there is an amazing association with historic sites as well, but apparently for other reasons (e.g., ore deposits). In fact some of the most famous mining communities in the desert occur in this area: Panamint City, Lookout, Cerro Gordo, Darwin, and others.

In the northeastern Mojave Desert, generally east of Death Valley, various results have been presented by Coombs (1979a) and only a few of his findings will be highlighted here. Mountains seem to be generally devoid of sites with the exception of the Clark Mountains and Kingston Mountains where limestone belts yield numerous agave roasting pits, a result of Agave utahensis being confined to these belts. In part the low frequency overall and limited number of site types found in the mountains may be a result of site destruction by natural elements. Milling tools were strongly associated with both mesquite and yucca communities, an unsurprising correlation. Sites also tend to occur in areas with more vegetation cover, perhaps a biomass association relating to hunting and processing of foods. Possibly one of the most significant conclusions is that sites tend to occur either along the upper pediment or near the valley floor with few cultural remains in between. Part of this pattern relates to tool-making activities and part to preservation factors.

During surveys within the Mojave Basin area by Brooks et al. (1979), a range of prehistoric and historic sites was encountered. Historic sites include mining, ranching, railroad and disposal remains, camps, and water development features. Mountain and valley locations are present. There is a predominance of lithic material sites (workshops) in the pediment/arroyo zones and a low frequency in mountain/hill zones, relating to the availability of float for quarry activities and tool making of unknown times. A high prevalence of campsites in lake dune locations and right around the playas, as well as within the Mojave Sink, attests to the importance of this area for subsistence/economic activities for much of the prehistoric period.

Within the western Mojave area, centered on Barstow/Victorville, Coombs (1979b) has provided a detailed report of his surveys. The importance of the Mojave River to prehistoric activities cannot be stressed enough. Generally speaking the likelihood of finding sites tends to decline as the distance from the river decreases. Habitation sites (large and small) along the middle stretch of the Mojave River generally tend to occur at a more or less fixed distance from the river, perhaps between 0.6 and one mile. Also, special activity sites tend to cluster around habitation sites; as the latter increase in number, so do the former. This apparent pattern seems to have occurred over a long time span. In other valley systems, sites tend to predominate in the narrower basins. The influence of the Mojave River is still apparent, however. The so-called boundary mountains of the western Mojave (e.g., San Bernardino Mountains) also appear to stand out archaeologically in comparison to the other regional mountain ranges (i.e., in terms of number, diversity and complexity of sites).

Springs once again proved very important as site predictors. Sites (prehistoric and historic) of many types do cluster most densely immediately surrounding the springs, with site density declining with increasing distance from the spring. As Coombs notes (1979b:84), "Clearly, springs have played a major role in the spatial patterning of human activity through many phases of the desert's occupation."

Westec Services, Inc. (Gallegos et al., 1979), under contract with BLM, completed a 0.5% inventory of a 2-1/2-million-acre block of the California desert, an area of the north-central Colorado desert generally (formerly) thought to be relatively poor in cultural remains. For large portions of the area, this has proven to be a misconception. Major aboriginal trade and transportation trails (i.e., Coco-Maricopa Trail) along which habitation and rock art sites occur and run east-west through the area. Portions of given mountain ranges were observed where raw materials (e.g., chert) were processed for tool making. Various environmental factors were identified, suggesting not only the presence but the preservation of sites on hills, pediments, and older alluvial fans with desert pavement; this is in contrast to the lower frequency of sites on the newer, more active fans located farther from the mountain base, a recurring pattern. Water resource factors again are important determinants. The presence of apparent Early Human and later sites around dry lake beds is an important discovery, clarifying and extending to this area recognized patterns in the northern desert. The historical inventories present a picture of numerous small mining camps, transportation corridor elements and General Patton's World War II relics. The vehicle tracks and ordnance refuse from this famed general's activities provide evidence to the fragility of the desert landscape.

A forty-mile-wide stretch along the west side of the Colorado River contains some very significant archaeological areas, especially within the Chemehuevi/Whipple mountains and in the Pichacho/Chocolate mountain area. The effect of the Colorado River on human activities has been and continues to be very strong, even at a distance of many miles. In this area spring locations are <u>not</u> strong predictors of site-patterning for reasons stated above. Looking more specifically at individual site types, the greatest

concentration of intaglios in North America occurs here as well as well-preserved trail systems, major rock art sites, and habitation caves. To many people's surprise the earliest gold mines in California--dating to the late 1700s--are found in this region. And the later Bradshaw Trail is a noteworthy early historic route.

The final area of discussion, encompassing the Santa Rosa and Orocopia mountains, includes a continuation of the rich Anza-Borrego zone discussed earlier. Survey resulted in similar conclusions discussed previously, e.g., the importance of springs and the significance (even at a distance of some miles) of ancient Lake Cahuilla. The Santa Rosa Mountains seem to have been especially productive as reflected in a very high site density and a number of major campsites, including rare aboriginal stone ruins. In contrast the Orocopia Mountains apparently contain few prehistoric and historic sites with the exception of a few mines and the remants of a stage stop, including a small cemetery, and several trails and rock art locations.

CULTURAL RESOURCES PROGRAM PROBLEMS

In undertaking a broad areal planning project numerous problems are frequently encountered, some partially or totally unresovable.

At the general level, legal mandates (FLPMA) that set a firm plan completion date, as well as time constraints set by various managers and administrators, imposed deadlines which limited the time that could be devoted to developing sampling designs, inventory, analyses, and write-up. Budgetary limitations and work-power ceilings are integral parts of the problems. In addition, in some cases individual training may have been insufficient in some areas of anthropology, history or environmental studies leading to minor data gaps or inconsistencies.

While a good deal of work was completed by BLM staff, considerable work was also undertaken by contractors. Although standards were imposed on contractors, flexibility for individual initiative and innovation was built into the contract. The result has been that not all data is exactly comparable across the desert. While this is only a minor problem, the reader should be advised that this situation is present and has been taken into account inasmuch as possible, (cf. Read 1979). On the positive side, novel and creative approaches have made a positive contribution to archaeological field methodology and analysis.

A major bias in the field inventory has been toward surface sites. There simply was not enough money to test the presence of prehistoric buried sites. Since sampling was exploratory, there was not always enough time (nor available landform or other environmental data) to test any precise models of Early Human locations. This was usually done through intuitive means (with several exceptions within the Colorado Desert).

By and large the chronological placement of prehistoric sites has remained unknown since sensitive time makers are often absent or have yet to be recognized by scholars. It was also Bureau policy not to collect artifacts

except in special circumstances (i.e. imminent destruction). Another bias in the site-recording procedures resulted from the arbitrary time depth of 1945 set by archaeologists. Any site of cultural remains judged later than 1945 was not recorded.

Coombs (1979a, 1979b) has presented a detailed discussion of the problems of validity and reliability with respect to the archaeological research procedures developed and utilized in several of the desert regions. His narratives have desert-wide applicability. His discussion of validity centers on the operational definitions of sites, briefly brought out in previous paragraphs. Coombs (1979a:61) has noted:

> In short, no meaningful statements . . . can be made about the set of "all past human behavior." The validity review <u>has</u> identified, however, the universe which <u>may</u> be systematically studied. Specifically, statements can be made about past human behavior which left physical indicants that are:
>
> a. recognizable to trained observers, and;
>
> b. present on the surface of the ground.
>
> The validity analysis has also warned us that we must be cautious of 1) the functions (i.e., the types of behavior) that we ascribe to particular collections of materials classified as sites and of 2) the conclusion we might come to concerning the relationship between the original locus of human activity and the present locus of cultural remains.

These same tests can be applied to environmental variables noted during inventory.

In addition the questions of validity should be applied to the analytical techniques and the assumptions that underlie them (cf. Coombs 1979a:63).

Reliability refers to the variability in any measurement device or other research tool and the consistency with which a task is performed. We can think of this factor in terms of the ability of field crews to perform their assigned survey and recordation tasks. This may be a reflection of the weather, lighting, terrain, vegetation cover, particular crew abilities, fatigue, and a number of other factors. What the reader must realize is that these factors can and probably did result in certain errors in the process. However, certain controls (cf. Coombs 1979a:68) help compenstate for these minor problems.

Clearly the sampling size alone can and probably has led to errors in interpretation and prediction. A 1 percent sample can only be considered adequate at the most general level. From a formal statistical viewpoint, the sample-size and configuration is inadequate for most tests. However, when prior work is taken into account and the few applicable tests considered, subjective evaluations of the data form a baseline on which to build better,

more objective evaluations of what is out there, what it means, and its overall significance to the public. As plan implementation proceeds, further inventory will provide a means for rectifying errors and for initiating needed amendments.

NATIONAL REGISTER PROCEDURES

To identify cultural resources listed on, or eligible for nomination to the National Register of Historic Places, the February 6, 1979 Federal Register was reviewed and the State Historic Preservation Officer (SHPO) was consulted. In addition a number of other archaeologists and historians working on recent or current projects were contacted in order to determine if they had other properties in process of nominations or determination. Bureau of Land Management cultural resource personel are aware of older nominations or determinations still in process as well as some properties where the SHPO (by correspondence) had indicated a particular property appears eligible. For the purpose of this plan and EIS, all of these above properties were treated as if they were already on the National Register of Historic Places or had been determined eligible (cf. Table AE-3).

A meeting was held on September 24 and 25, 1979, with representatives of the California State Office of Historic Preservation. As a result of this and subsequent meetings BLM and the Office of Historic Preservation are working out an agreement to meet 36 CFR 800 compliance requirements with respect to the National Register of Historic Places.

Part 3

Cultural Resource Program:
The Archaeological (Prehistoric and Historic) Record

For the purposes of this project an archaeological site is defined as a pre-WWII location of one or more prehistoric and/or historic activities which can be delineated specifically by the cultural remains present and is separated from other locations of prehistoric and/or historic activities by distance (greater than 50m) and/or geomorphic feature. The exceptions to this rule were determined on the basis of field judgement and represent less than 5 percent of the cases. As an example, a large lithic scatter or temporary camp may have cultural materials moved downslope by sheetwash more than 50m from the main site. These downslope materials were not recorded as separate sites. Obviously the preceptions of field recorders were not always the same, and a certain amount of deviation in such field judgments should be expected. Overall, however, the criteria for site distinction were rigorously followed for the sake of consistency. In a few instances sites related to WWII desert military training and 1940s vintage historic events were recorded.

The cultural materials that constitute a site are basically artifacts and/or cultural features and structures. Artifacts include a wide array of tools and objects of stone, bone, wood, ceramic, metal, etc. Cultural features are specific clusters of artifacts and/or other material that exhibit structural association and that consist of nonrecoverable or composite matrices used or assembled by human beings. Examples include rock art, evidence of bedrock milling, roasting pits, arrastres, rock walls, etc. Structures include houses, foundations, dugouts, etc. The smallest spatial unit with which the archaeologist deals is the site. A single isolated artifact or feature fits within the definition of a site.

Prehistoric sites are locales used by aboriginal peoples, usually for traditional activities, before the complete disruption of their lifestyle by non-native populations. Historic sites are locations utilized by more recent peoples, including Anglos, Chinese, Mexicans, Blacks, and others, up until World War II. Some sites contain both prehistoric and historic components and others may hold ambiguous clues or no clues as to whether they are the products of prehistoric or historic populations.

For planning and other management purposes and to facilitate discussion of prehistoric behavior within the study area, 18 prehistoric site categories ("types") and 11 historic site categories ("types") were distinguished. In retrospect we now would opt for a more descriptive classification; we avoided any change during work progress to facilitate comparability desertwide and interregionally.

PREHISTORIC SITES

Village

A wide range of cultural materials represents the apparent long-term or intense seasonal activity of a number of families at these base camps. Archaeological evidence includes artifacts associated with (a) a wide range of subsistence activities, as well as floral and faunal remains which represent subsistence activities, (b) the manufacture of other artifacts, and (c) ceremonial activities. Such a site is characterized by most or all of the following: extensive scatters and quantities of debris such as potsherds, fire-affected rock, whole and broken stone tools, chipping waste, milling tools, structural depressions or rings, hearths, rock art and mortuary remains. A well-developed cultural deposit (midden) is an essential constituent of these large sites, which in almost all cases of the systematic record exceed 1,000 square meters in size and in over half the cases exceed 5,000 square meters in size.

Temporary Camp

These sites were apparently occupied for a short length of time (e.g., one day to one month) by several people, up to a few families. Cultural remains may include a combination of scattered artifacts, tool manufacturing debris, fire-affected rocks and possibly features. Any combination of flaked stone, sherds or milling tools or milling features may be present at these open sites. There may be midden or features present such as clusters of fire-affected rock, cleared circles or rock rings. Generally these sites differ from the first site type by their smaller size (less than 15% exceed 5,000 square meters in size) and lower complexity (a lower frequency and density of artifacts). These sites are inferred to represent limited camping, subsistence and maintenance activities.

Utilized Shelter/Cave

Any rock overhang, rockshelter, or cave with evidence of prehistoric use falls into this site category. When a shelter or cave has rock art as the only sign of utilization, the site is classified as one of the rock art site categories. While at times some attempt was made to sub-type these sites into (a) occupation, (b) transient, or (c) storage rockshelter or cave, lack of subsurface testing precluded objective categorization, and for purposes of analysis only the single category was used.

Miling Station

Semiportable or bedrock milling artifacts or features (excluding isolated manos or pestles) are included in this group. The small portable tools mentioned above are lumped in the isolated find category. Milling stations include metates, bedrock grinding slicks, rubs and mortars in isolation or in groups. An occasional roasting pit or flake may be found with a group of milling features within this category. Where there was some question of

categorization, the apparent primary focus of activities was considered the main factor in the classification.

Lithic Scatters

These sites are characterized exclusively by the presence of flaked stone tools, chipping waste, cores, retouched and utilized flakes, and/or flake material such as chalcedony, chert, obsidian, rhyolite, basalt, felsite, etc. Such sites appear to be represented by surface materials only, although some subsurface remains could be present. This is the most frequent site category in the California Desert. About 60 percent of these sites within the sample are less than 50 square meters, 75 percent are less than 250 square meters, and only 5 percent exceed 5,000 square meters in size. Density of materials varies considerably, although at least three flakes must be present. Some of these sites may be termed secondary quarries. Here "float" material on fans or similar areas was reduced for tools, blanks, cores, etc.

Quarry Sites

These sites are locations where lithic materials have been extracted from a larger mass (usually crypto-crystalline), such as a seam, vein or outcrop, for the purpose of raw material procurement and eventual tool or ornament manufacture. Materials extracted include chert, basalt, obsidian, turquoise, etc. Such sites are characterized by an abundance of stone flakes, cores, occasional hammerstones, preforms, blanks or rejects. There are a few instances where the distinction between quarry and lithic scatter remains unclear.

Pottery Locus (scatter)

A site in this category is represented by a surface scatter of pottery (ceramic) sherds or broken vessel parts. In rare instances whole vessels may be recovered. Over 80 percent of the systematically recorded sites are less than 10 square meters in size.

Cemetery

One or more human interments comprise this site category. Surface manifestations include exposed human bone, mounding, cairns or other markers. The systematic survey resulted in the recordation of no sites of this category, although others have found such sites in the desert, and several villages are known to contain human interments. Historic cemeteries are treated in the historic site classification.

Cremation Locus

Sites of this category are characterized by charred human bone fragments and associated blackened soil. Small circles of cobbles may also mark cremation locations. These sites are most often found in small rock cavities and dune

areas. Cremations may also occur in association with other site categories such as rockshelters and villages.

Intaglios

These are large ground figures, abstract or animal and human forms, that have been produced by removing darker-colored desert pavement and exposing the underlying lighter-colored soils. These sites are found predominantly along the Colorado River and in the Yuha Desert.

Rock Alignments

Sites in this category include one or more connected or isolated courses of cobbles or boulders arranged to form lines or other designs or figures. Such alignments vary in size and complexity ranging from simple lines to complex abstract or geometric designs or figures. Rock rings, small enclosures of boulders (blinds?) and walls are excluded.

Petroglyph Site

Petroglyphs are pecked, scratched or incised figures or designs on boulders, rock outcrops or rockshelter walls. These features are usually immobile. Frequently they are associated with camps or villages.

Pictograph Site

Pictographs are painted figures or designs which occur most frequently on the walls of sheltered caves, boulders or outcrops. The most frequent colors are red, black and white, although other colors such as orange, brown, yellow and green can occur. Most frequently, paintings occur as features of other sites.

Note: If both petroglyphs and pictographs are present, then the dominant rock art form (i.e., greatest number of elements) dictates the site type to be given (e.g., petroglyph site with pictographs or pictograph site with petroglyphs.) The lesser rock art form (i.e., smallest number of elements) is recorded as a cultural feature.

Trail

Trails are marked routes of travel between apparent villages, temporary camps, and resource procurement areas. Where they survive, trails usually are faint linear impressions or clearings in the desert pavement or slight "shelves" along hillsides and canyon slopes. Potsherds and other artifacts may occur along trails, as may rock cairns or trail shrines. Such associations are especially critical in identification where modern or relict animal trailing and past vehicle trailing has occurred. The trail is an entity in itself--a route of travel interlinking the various activity areas and sites of the aboriginal populations. However, in some cases trails were recorded as features of other sites.

Roasting Pit

Circular areas of burnt cobbles and darkened soil, sometimes with rounded depressions or mounding, characterize roasting pits. Occasionally a milling feature, several flakes or potsherds may accompany a series of roasting pits. The apparent dominant activity (remains) determines the site category.

Isolated Find

An occurrence of a single artifact or cultural feature that does not conform to other site categories is documented with this category. This includes isolated flaked stone tools, cores, manos, and other artifacts not covered by other site categories (e.g., an isolated metate is included in 04). One or two isolated flakes may also be recorded as an isolated find if such flakes appear exotic to the area or their human origin seems certain. Cultural features included in this site category are single rock rings or single cleared circles with no associated artifacts or other cultural features.

Cairn

Single or multiple piles of cobbles and/or boulders (other than those marking recognizable burials or cremations) comprise this site category. On occasion this is simply a single boulder or cobble placed atop another ("duck") to mark trails, etc. Known historic cairns (e.g., mining cairns) were recorded as historic sites. There were some cases where the cairn function and age could only be guessed, based on weathering and context.

Other

This catch-all site category includes such features as multiple rock rings with no associated artifacts, single and multiple probable hunting blinds, other rock structures and miscellaneous features that were not readily classifiable.

HISTORIC SITES

Historic sites were classified according to major activities: mining, railroad, military, homesteading, exploration/travel, settlement, ranching, and other. In addition, each historic site was categorized according to the categories listed below.

Town

A town is a compactly settled area with evidence of "permanent" buildings and a wide range of activities, the results of lengthy habitation.

Camp

Sites of this category consist of the remains of a few temporary habitation structures generally associated with a single major activity (e.g., mining,

railroad construction, etc.) and transient use. Areas used for very short camping intervals with no structural remnants are included in this category.

Homestead

A tract of land, sometimes with cultivated plots, which has a building (usually a small house or shack) built upon it is categorized as a homestead. Generally, these tracts were acquired from the United States Government under public land entry. In some cases, however, trespass properties are probably included.

Road

Known wagon and early automobile roads are classified under this site type. Often trash is found scattered along the routes. In rares instances, wagon ruts may be present, such as along the Old Government Road and the Spanish "Trail."

Trail

Meandering foot routes plus saddle and pack animal routes fit this category. Historic trash usually can be found scattered along the routes.

Mine

This site category includes shafts, adits, tunnels, and other features through which mineral substances have been extracted. Habitation structures, material processing features and other structures, and features and items that appear secondary to associated extraction activities are included.

Railroad

These sites include the remains of a permanent road having a line of rails fixed to ties and laid on a roadbed or berm providing tracks for railroad cars. Most historic desert railroads have only a berm or a berm and ties remaining. Camps and trashdumps associated with railroads are categorized separately.

Graveyard

These are cemeteries containing the remains primarily of Euro-American, Asian and other non-Indian people. Headstones, wooden crosses, mounds, elongate rock cairns, etc. mark this site category, which is usually associated with other historic material and often with a town or campsite.

Trashdump

These are places where historic refuse or other discarded materials have accumulated or been dumped. Dumps often occur in association with other historic features and consequently are subsumed under other categories in these cases.

Military

Sites of this category consist of remnants of military activities including forts, camps, outposts and redoubts (primarily 19th century) and training camps and various structures and features resulting from more recent activities through WWII.

Other

An extensive range of historic materials and features are included in this miscellaneous category. Included are isolated artifacts (e.g., bottles, automobiles, horseshoes), isolated features (e.g., arrastres, wells, cairns, structures, etc.) and other complexes (e.g., mills, charcoal-burning areas, graffiti, tramways, etc.).

Part 4

Cultural Resource Sensitivity/Significance Determinations

The concept of significance has been used in most laws, directives and regulations pertaining to cultural resource management (see Part 12) and is the key to the Sensitivity Mapping Record (see below) developed by the staff. Inasmuch as each archaeological site contains bits and pieces of information that may enhance our understanding of past human activities, each site is potentially significant. However, it is generally accepted that defining significance of an archaeological phenomena requires some frame of reference, problem orientation, or geographic, temporal or other content. In the course of DPS's sensitivity analysis, locations or small regions containing or believed to contain one or a complex of sites were deemed more or less significant following the attached criteria.

The better the control of the evaluator over the topical, geographical and temporal context in which sites are located, the more effective that person can be in the assessment of the relative significance of the cultural resources of the area. By the same token, the more we know of the sites in a particular region, the more confident we can be in our evaluation. If a site happens to be the only example of its type within a region or the entire desert, then we have to assume that it is highly significant.

The significance of an archaeological resource (a single site or a complex of sites) cannot be directly measured in the sense that site size, depth, and content or density of sites can be measured. Furthermore there is no absolute frame of reference that can be established against which all prehistoric or historic resources can be measured. There are many potential kinds of significance (e.g., historical, scientific, ethnic, public, geographic, etc.). Depending on what questions are asked concerning the issues of significance, sites are deemed at this time of more or less value. The situation is further complicated by the fact that as the discipline evolves or even as public awareness changes, the degree of significance also may change. Desert locations of little concern abandoned 30 years ago may become very significant 20 years from now. In any discussion of significance, then, the cultural resource specialist must specify the frame of reference employed in evaluating the significance of the cultural remains.

The criteria most often developed in evaluating the significance of archaeological-historical remains from the standpoint of cultural resource management and the concerned disciplines includes research potential, integrity and public appreciation. The cultural resources specialists on the planning staff considered these criteria along with: historical and ethnic interest, uniqueness/rarity, site diversity, site complexity, site density, site variance, and site distribution. Some of these criteria broaden our perspective from the individual site to an area or region.

The criteria employed in the sensitivity analysis are discussed in form order. Since the criteria were designed for the determination of areas of (1) very high, (2) high, and (3) moderate, low or unknown cultural resource sensitivity/significance, a few comments concerning their delineations are in order. Because of the nature of this plan and the cultural resource inventories to date, the resources in all cases were given the benefit of the doubt. Our approach to the evaluation was liberal in this respect. So much of the desert is simply unknown in terms of prehistoric or historic remains.

CALIFORNIA DESERT
CULTURAL RESOURCE SENSITIVITY MAPPING RECORD
USDI-BLM DESERT PLANNING STAFF

Polygon No. _____
Planning Unit(s) _____
County _____
Date _____
Analysts _____

A. Regional Characteristics

I. Description of Region:

II. Land Ownership:

B. Criteria

I. Site Density (desert-wide, regional, stratum):

II. Site Variance (by stratum):

III. Site Distribution (clustering)--Coefficient of Dispersion by Stratum:

IV. Site Diversity (by stratum):

V. Site Complexity (inter-and intra-site):

VI. Uniqueness/Rarity:

VII. Current Field Research Interest:

VIII. Potential Scientific Use (Interest):

IX. Aesthetic Value (for recreational use only):

X. Integrity/Surrounding Environment (inter-and intra-site):

XI. Socio-Cultural (ethnic) Use/Concern:

XII. Historic-Ethnohistoric Documentation--Heritage Interest:

C. Comments

I. Publications/Documents (informational):

II. Confidence (problems) in Rating:

III. Sensitivity Class:

IV. Recommendations for Allocation:

Those areas of high sensitivity/significance tend more to be predictive, or represent cultural resources which have been seriously impacted or are relatively common to the region under evaluation. Other criteria discussed below were also considered. Determinations of relative sensitivity and significance were based on one or a combination of criteria.

No single individual undertook the evaluations. Since both subjective and objective criteria were utilized (alone or in combination), some variation would be expected. By being liberal, however, the cultural resources are fairly evaluated in this exercise.

The information used in this process was extensive, including all contractor reports, site record files, general files, and other information previously listed. In addition many knowledgeable individuals were contacted for information. These contacts were undertaken directly or through the intermediacy of contractors. Time did not allow us to contact all of the individuals we would have liked, however.

Also, various contractors have presented sections of reports concerning an evaluation of the cultural resource significance and sensitivity of their particular study area and the desert as a whole. Their works have been taken into account in the process. Some salient points of these works are worth presenting at this time.

Two schools of thought exist with respect to archaeological-historical research significance (cf. Coombs 1979). The predominant opinion is that the relative importance of sites should be based on regional research problems. This approach has been criticized (cf. Glassow 1977) on the grounds that it ignores future methodological and theoretical developments. The minority school supports establishment of significance criteria which ensure that a representative sample of different site types be preserved. Archaeologists have been critical of this argument because it smacks of the "shotgun"

approach of early American ethnographers. The principal distinction of the latter school is the emphasis on variety, that is, on preserving a range of site types in a range of environmental settings. In deference to the professional community, and the difference of opinions, the sensitivity analysis attempted to define areas of regional significance, as well as those incorporating variability in observed cultural phenomena.

Sites recorded during systematic sample inventory provide precise information about locations and attitudes of known sites. These site samples, taken in conjunction with subsequent analysis, provide general information about unrecorded sites; that is, the overall patterns of cultural resources and the distribution of particular site types. In this sense, a number of areas of high sensitivity/significance are predictive.

Site analysis revealed a number of site distribution patterns, among them higher prehistoric site densities around mesquite groves, in pinyon-juniper areas and in the vicinity of springs. In the past sensitivity/significance analyses have emphasized these areas of higher site density, at the expense of lower site density zones (sometimes including large areas) and areas containing relatively small and "simple" sites. We have attempted to rectify this situation somewhat by including regionally select zones of lower site density and site complexity in high or very high cultural resource sensitivity/significance polygons.

As a final preface to the individual criteria, a discussion of the individual criteria ratings are appropriate. Each criterion is accompanied by a qualitative statement (high, medium, low, unknown, none) based on objective and/or subjective data. While we have tried to be as consistent as possible in these assessments, some fluctuation can be expected with individual evaluators. Discussions among the evaluators and review by the lead archaeologist hopefully has minimized the variation.

The first four criteria (site density, site variance, site distribution and site diversity) are quantifiable desert-wide, regionally or within a particular environmental domain or stratum.

I. SITE DENSITY

Site density estimates were derived according to the following formula:

$$Y = \sum_{L} S_L \left(A_L / a_L \right)$$

where, Y = the estimated number of sites in a given zone (the zone may be a substratum, stratum or the total project area)

L = a given substratum (area)

S_L = the number of sites recorded within substratum L, contained in the zone.

A_L = the total area within substratum L, and;

a_L = the area inventoried within L.

These estimates are based exclusively on the randomly generated data of the systematic field inventories. Site densities were computed using the total number of sites observed within individual sample units. Determinations and evaluations of sensitivity and significance utilizing the above formula for mean number of sites per square mile were made on a regional basis and through comparisons of broader physiographic provinces (e.g., Colorado Desert, Great Basin, etc.) In some cases or special circumstances, general figures were extrapolated. As an example, unless there were data to the contrary, areas around springs were considered high site-density areas.

It must be remembered that the formula utilized is only one estimate of site density. There is always the danger that some figures could be skewed, as in an area where most of the survey units had no sites present and one or several had a great many. Wherever possible this potential skewing was taken into consideration.

In ranking broad areas of the desert in terms of site densities we have relied on the analytical work of Gary Coombs' (1979c) "An Analysis of California Desert Cultural Resource Data Preliminary Report #13, Archaeological Potential and the Ranking of Study Areas." Coombs' analysis represents an attempt to control for differences in environmental composition and to determine whether differences between study areas, in terms of site densities, remain after such controls have been implemented. These controls included the pooling of valley and playa strata, since no strong or consistent differences in site densities were apparent, and the exclusion of mesquite and pinyon-juniper strata from valley and mountain categories because of their significantly higher site densities in all areas. Based on their pooling and subsequent analysis, a basic ordering of study areas was determined as follows:

1. Anza-Borrego and Yuha (highest site densities)

2. Southwestern Great Basin, Mojave Basin, eastern Colorado Desert and western Colorado Desert

3. Central Colorado Desert, northeast Mojave (lowest site densities)

All of the above information was considered in the final subjective evaluation of the region and the subsequent determination of high to very high sensitivity/significance polygons.

II. SITE VARIANCE

Site variance was derived according to the following formula:

$$s^2 = \frac{\sum \left(x_i - \bar{x} \right)^2}{n - 1}$$

Where x_i = number of sites in the i^{th} tract

n = sample size

$\bar{x}$ = mean of the sample

This particular measure was utilized on a regional or subregional basis as applicable.

In an approach which relies heavily on prediction based upon a data base which constitutes only a small percentage of the total population (i.e., sites), variance is an extremely important factor. However, it can be misleading when used without consideration of mean site density values and other criteria. For instance, different kinds of deviation from a mean can give the same variance figures. This importance of variance relates to the reliability of the predictions. Generally, the greater the statistical variance in the sample population the less certain we can be about the predictive accuracy of any model derived from correlations identified in the same population. In this case we would be inclined to adjust the weighting in sensitivity predictions to reflect this situation, i.e., areas with solid or high correlations with little variance will be considered relatively more reliable in predicting general sensitivity than areas with correlations exhibiting relatively high statistical variance. Variance figures are examined for the region under consideration and assessed in terms of other data as to the relative significance/sensitivity of the given area.

III. SITE DISTRIBUTION -- Coefficient of Dispersion by Stratum

Site dispersion refers to the amount of clustering observed among sites in the sample. It is expressed as the Coefficient of Dispersion (CD) in the following formula:

$$CD = \frac{s_h^2}{\bar{x}_h}$$

where, $\bar{x}_h$ = the mean site density

s_h^2 = the variance of the density

A CD roughly equal to 1.0 indicates a random distribution of sites. A CD greater than 1.0 indicates clustering among sites; a CD less than 1.0 indicates repulsion among sites.

A description of where sites seem to be clustered is often included in this category. Since this criteria is computed on a subregional basis (e.g., by planning unit and stratum or domain) within each general field study region or area, CDs are evaluated within that region or area in relationship to each other. Those subregions which are anomalous are usually afforded a relatively higher rank in the subjective evaluation of the figures. As in the other quantifiable estimates, the very low sampling percentage leaves room for a considerable margin of error. In this respect this criteria was not emphasized in the overall evaluations.

IV. SITE DIVERSITY

Site diversity was derived according to the following simple formula:

$$\text{Site diversity} = \frac{\text{number of site types per stratum} - 1}{\text{number of sites per stratum}}$$

The number and types of sites present within the individual sensitivity/significance polygons are listed in this category as well.

This criteria was used to assess polygons according to individual study regions. Precautions were taken to avoid using the absolute numbers since there are inherent problems in this measurement. The evaluations of sensitivity/significance were judged on the basis of the index number bearing in mind that generally (1) where very few sites are present, the index is likely to be high; (2) where many sites are found, the index is likely to be low since there is a finite number of site types in the total sample; and (3) the measure doesn't deal with the unusual site type on a desert-wide basis nor does it bring out site type congruence as there are only a few frequent site types.

In some cases because of the above, no significant differences were apparent. In regions with a high site density mean, a relatively high index

(concentration of high numbers of many site types) was judged to be important (significant) in comparison to areas of few sites of only a few types.

V. SITE COMPLEXITY

This criterion was used on a site and regional basis. The considerations included the extent of each site or sites, site components, diversity of artifacts, features and/or motifs, the density of cultural materials and the presence or possibility of paleoenvironmental/ecofactual materials. The approximate breakdown of areas and sites was considered as follows, insofar as this could be determined in the field or from the records:

Low

Small sites, single component sites, little diversity of artifacts, features and/or motifs, low density of cultural materials, and little or no evidence of paleoenvironmental/ecofactual materials.

Moderate

Small and medium-sized sites, single component sites, moderate diversity of artifacts, features and/or motifs, low/moderate density of cultural materials, and occasional evidence of paleoenvironmental/ecofactual materials.

High

Large-sized sites, single to multicomponent, moderate to high diversity of artifacts, features and/or motifs, moderate to high density of cultural materials, good ecofactual and paleoenvironmental possibilities.

Obviously, a polygon may be characterized by sites of low intrasite complexity yet still have high intersite complexity or vice versa (e.g., historic and prehistoric sites).

VI. UNIQUENESS/RARITY

This criterion was utilized by the evaluator on a regional and subregional (stratum or domain) basis for individual sites based on present knowledge. Sites were evaluated according to whether they were one of a kind or one of a few sites of their kind, or the best remaining example of a particular type of activity, or combination of activities. A complex of sites with the same factors was also considered.

It is worth reiterating that defining uniqueness/rarity requires some frame of reference, problem orientation, or geographic, temporal or other context. A one of a kind site or complex of sites located in a poorly understood region may initially be considered significant. However, as data become more complete, the assessment of that archaeological phenomenon could change.

VII. CURRENT FIELD RESEARCH INTEREST

This category was measured by reference to information related to research contained in the Class I cultural resources overviews and other publications and documents, and by reference to past, present and pending antiquity permit applications. Highest consideration was given to those areas where current (1978-79) research is underway or proposed. Lesser but considerable consideration was given to those areas or sites where there has been research within the past decade and the sites and environment retain their integrity.

VIII. POTENTIAL SCIENTIFIC USE

Scientific use refers to the potential for a site or complex of sites to yield scientific data pertaining to prehistoric and historic behavioral patterns. This was evaluated on the basis of historic records, the possession of unique or rare characteristics or qualities and/or the presence of an archaeological deposit in an undisturbed condition. An archaeological deposit can be defined as an artifactual/ecofactual assemblage in either a surface and/or subsurface content (see discussion on site categories). The following is a partial list of potential study topics (cf. Grady 1977) (not to be considered mutually exclusive) for both prehistoric and historic sites as applicable:

1. Cultural processes
2. Cultural dynamics
3. Settlement/subsistence studies
4. Cultural ecology
5. Architectural studies
6. Artifact typology
7. Transportation and trade
8. Social organization - patterning
9. Burial/cremation studies
10. Ceramic studies
11. Dating
12. Geo-archaeology
13. Early Human
14. Lithic artifact studies

15. Perishable studies

    Microfossil analysis

    Macrofossil analysis

16. Photogrammetry

17. Pollen studies

18. Trace element studies

19. Rock art studies

20. Historic engineering

21. Historic mining

22. Urban development

23. Military activities

24. Railroad studies

IX. AESTHETIC VALUE (for recreational evaluations only)

The aesthetic value of a site, feature or artifact is determined by its artistic merit or the degree to which it might be expected that people will enjoy viewing it, either in situ or in a museum display, for an appreciation of its beauty. It is recognized that terms such as "artistic merit," "beauty," etc. are subjective, and people will enjoy the differing types of artifacts, features and sites for various reasons. Sites and site complexes were rated on the following scale for aesthetic value:

Very High

This category consists of sites or artifacts of an especially spectacular nature. Sites or artifacts that are in an undamaged condition or nearly so are included here. These sites can be large rock art sites (petroglyphs, pictographs, intaglios), major historic sites (e.g., mining towns and camps), or smaller sites, such as single structures. It may also include such things as undisturbed rock shelters and similar habitation sites, milling sites with an abundance of bedrock mortars or grinding slicks, trail systems, and even single artifacts, such as an undamaged projectile point, basket, ceramic pot, early mining equipment, etc. Many sites, features or artifacts in an undamaged condition might be expected to give pleasure to some viewers.

High

This category includes less spectacular common site types or those as above that have suffered some damage so that they can no longer be considered pristine or whole. The site or artifact must still be essentially intact.

Medium/Low

This category includes sites or artifacts that have been seriously enough damaged or worn away through weathering and/or erosion that they are no longer intact. It also includes such site types as single mortars or historic objects, lithic scatters, sherd scatters, rusted tools, etc., which, while they may be interesting for other reasons, have little or no inherent aesthetic value for the layperson by today's standards.

X. INTEGRITY/SURROUNDING ENVIRONMENT

The potential for cultural resources to contribute to our understanding of past peoples is largely a function of their condition and can be referred to as the integrity of the resource, relative to research significance. A determination of the research potential of a site or complex of sites is dependent upon an accurate assessment of the natural and cultural disturbances to the sites and surrounding areas. A site which is physically intact, in whole or part, and assumed to be reasonably similar to the condition when last occupied, is said to have maintained its optimum integrity. This also includes integrity of the environmental setting of the area in the vicinity of the site. Overall ratings fall into the following three categories:

I. Low - Where damage to a site or sites and environs are extensive and irreversible. When:

A. Natural forces have effected a substantial change on the site or sites or surrounding environ through:

1) Dissection or degradation by sustained gullying, rilling, colluvial activity, or flash flood, therefore displacing or extremely altering the site or surrounding landscape.

2) Native or domestic faunal disturbance by extensive rodent burrowing, erosion induced by overgrazing of cattle or sheep, artifact breakage by hooved animals such as burros, trailing, wallowing, etc.

3) Floral disturbance or change where the site is nearly destroyed by vegetation growth or the pre-contact native flora has been displaced by imported species.

4) Physical alteration by rockslide, talus accumulation, slumping, etc.

B. Human forces have effected a substantial change through;

1) Conscious activity such as pothunting or vandalism.

2) Unconscious destruction through recreational activity (e.g., motorized vehicle use, horseriding) or technological pursuits (e.g., utility construction, mining or ranching) which have removed the great majority of the site or substantially altered the surrounding area with material objects (e.g., buildings, roads, trash).

II. Medium - Where physical damage or degraded environmental condition is moderate and has not totally destroyed the content/context of a site or sites. Where recent human or natural degradation can be mitigated or halted in a cost-efficient or regulatory manner. When:

A. Natural weathering, erosion, and biotic disturbance has proceeded causing:

1) A loss of some information through artifact/ecofact displacement but the site activity can be basically discerned through the remaining data. Where a site in its context is imminently threatened by these forces, simple physical measures (vegetative removal, erosion, stabilization) to protect the resource and surrounding environ, should be sufficient.

2) It is assumed that natural biotic succession accompanied by ongoing landform change will alter the ecological setting of the environ somewhat but would neither eliminate all paleoenvironmental data nor necessitates human intervention.

B. Human forces have resulted in a loss of data through:

1) Minor collecting or disturbance of the site.

2) The appearance of recent materials in the vicinty which have impacted the site or environ.

3) The site and area integrity have sustained damage which can be mitigated by material removal, (trash, etc.), camouflage on necessary structures, rerouting of roads to lessen impacts on site and area.

III. High - Where the site(s) and/or surrounding environ has sustained little damage or disturbance to its integrity. When:

A. Natural erosion or biotic disturbance of the site and environ have been minimal or negligible, resulting in a relatively pristine setting altered only by the passage of time.

B. Human forces have had little prolonged effect (i.e., ephemeral) through their activities (subsistence, traveling, prospecting, some forms of recreation, etc.).

This category would necessarily have the best content/context of archaeological data as most of any given site(s) is intact and environmental data are relatively complete.

XI. Ethnic Use/Value

Individual sites or groupings of sites and their surrounding environment that have special significance to Native American and other groups are said to have ethnic value. Given BLM's specific task of representing and incorporating the concerns of the contemporary Native American community, primary attention was given to recent (less than 10 years) interview data and BLM/DPS ethnographic records. Due to the variation in the concerns and criteria by which various groups with traditional homelands in the CDCA determine "significance" and "sacred" status of sites, it was decided that interview notes be the basis for evaluating ethnic concerns.

Certain uniformities in the evaluation procedures were applied. All areas specifically identified by Native Americans as being "sacred" or as having explicit ritual associations were considered of "high" sensitivity. Areas of demonstrated occupation by predecessors of contemporary populations were in most cases categorized as moderate in sensitivity. Certain of these areas having associations with Native American oral narratives and myths may, however, be areas of "high" sensitivity. Only areas not mentioned and sites not known to contemporary Native American informant populations may fall into the "low" sensitivity category.

Other ethnic concerns are recognized. (These include Asian and Mexican-American). The concerns of these groups were considered relative to the above comments.

XII. HISTORIC-ETHNOHISTORIC DOCUMENTATION

Historic-ethnohistoric documentation is based on information provided in the Class I cultural overviews, other background studies and documents, and other archaeological, ethnohistorical or historical publication. References to given sites, features or regions are considered in this criteria on a desert-wide basis.

While no pretense is made at knowing the entire literature base, some sites or locations are obviously described more often in more detail. These become more important for the purposes of this criteria only. Where there is no known documentation for a given location or area, it is rated low. Moderate to high value is subjectively placed on other locations or areas depending on the level of documentation.

Part 5

Mitigation

Mitigation is a complex set of alternatives designed to reduce or alleviate the adverse impact of land alteration activities on natural and cultural resources. Mitigation is usually accomplished in one or a combination of three ways, specifically (1) avoidance of the resource base, (2) preservation of the resource base, and (3) "adequate" study of the resource base. Adequate study (or data retrieval) is not the only mitigation measure available and in many cases is the least preferred approach.

Mitigation may alleviate effects from direct, indirect, and/or potentially adverse impacts. Direct impacts are the immediately demonstrable effects of a land modification activity on cultural resources. Mitigation of these impacts is entirely the responsibility of the project sponsor. Indirect impacts are secondary effects resulting as a spin-off from a land modification activity. Effects are not likely to have occurred within a predictable time span without the activity. A specific example is increased erosion of sites because the project has altered drainage patterns.

The responsibility for mitigation of these impacts is less clearly defined, although precedent exists for the sponsor to mitigate where there are clearly predictable indirect impacts. Potential impacts are the result of associated developments which are likely to occur as a consequence of a project, but are dependent on other variables, particularly socioeconomic. Intensified recreational use or increased urban development as a result of this Plan are examples of potential impacts. Because these impacts are often difficult to assess, in most cases no mitigation occurs. Proper implementation would serve to partially alleviate these impacts.

Generally speaking, then, the direct impacts and the <u>predictable</u> indirect impacts can be ameliorated, and mitigation is the obvious responsibility of the project sponsor. It is reasonable to believe, however, that the less predictable effects, including the potential impacts, can only be alleviated if they are clearly identified at an early stage following Plan adoption and developed as a part of the total mitigation program.

It was noted at the outset that mitigation is a complex set of alternatives designed to reduce or remove adverse impacts through avoidance, preservation, and investigation of the resource base. The mitigation measures appropriate to each proposed activity are listed in Table VII-5-1.

Avoidance coupled with preservation is the preferred form of mitigation.

Table VII-5-1
APPROPRIATE MITIGATION MEASURES FOR PROPOSED ACTIVITIES

ELEMENT ACTIVITIES AND MAJOR IMPACTS	Impact Type	Mitigation Measures[1]	Effectiveness of Mitigation
Land Tenure			
Transfer:			
Opportunity for additional scientific work may be lost.	Direct	III	Moderate
BLM no longer responsible for sites.	Direct	None	---
Inadequate mitigation likely on large land transfers.	Direct	Unavoidable adverse impacts	---
Acquisition:			
Acquisition for recreational purposes may be damaging.	Direct	I, II, III	Unknown
Recreation			
Collection of cultural remains.	Direct Ind.	I, II	Unknown
Recreationalists trample sites.	Direct	I, II	Unknown
Construction of recreational facilities.	Direct	I, II, III	High
Increased visitor use.	Indirect	I, II	Unknown
Partial data recovery because of constraints.	Direct	Unavoidable adverse impacts	---

[1] I - Avoidance
II - Preservation
III - Investigation

Table VII-5-1 (Continued)
APPROPRIATE MITIGATION MEASURES FOR PROPOSED ACTIVITIES

ELEMENT ACTIVITIES AND MAJOR IMPACTS	Impact Type	Mitigation Measures	Effectiveness of Mitigation
Wild Horses & Burros			
Trampling of sites.	Direct	III[1]	Moderate
Cutting of trails, particularly around springs.	Direct	I, II, III	Low
Dust wallowing.	Direct	None	---
Rubbing against structures and rock art surfaces.	Direct	I, II	Moderate
Modification of soil.	Direct	I, II	Low to Moderate
Introduction of new pollens into rock shelters.	Direct	I, II	Low to Moderate
Grazing			
Trampling of sites.	Direct	III[2]	Moderate
Accelerated erosion	Indirect	I, II, III	Unknown
Facility construction.	Direct	I, II, III	High
Wildlife			
Developments associated with wildlife management.	Direct	I, II, III	Moderate

[2]Data recovery from herd concentration areas.

Table VII-5-1 (Continued)
APPROPRIATE MITIGATION MEASURES FOR PROPOSED ACTIVITIES

ELEMENT ACTIVITIES AND MAJOR IMPACTS	Impact Type	Mitigation Measures	Effectiveness of Mitigation
Utility			
Construction of facilities (including upgrading and subsurface construction).	Direct	I, II, III	High
Recreationalists make use of new roads.	Indirect	I, II	Low
Partial data recovery because of various constraints.	Direct	Unavoidable adverse impacts	---
Visual intrusions to cultural resources.	Direct	I	High
Energy & Utilities			
Wind Generating Sites:			
Construction of facilities.	Direct	I, II, III	High
Enhanced access.	Indirect	I, II	Low
Partial data recovery because of various constraints.	Direct	Unavoidable adverse impact	---
Alteration of drainage patterns leading to accelerated erosion.	Indirect	I, II	Unknown
Visual intrusions to cultural resources.	Direct	I	High
Microwave Facilities:			
Same as wind generating sites.			
Plant Siting:			
Same as wind generating sites.			

Table VII-5-1 (Continued)
APPROPRIATE MITIGATION MEASURES FOR PROPOSED ACTIVITIES

ELEMENT ACTIVITIES AND MAJOR IMPACTS	Impact Type	Mitigation Measures	Effectiveness of Mitigation
KGRA:			
Same as wind generating sites.			
Motorized Vehicle			
Machines provide increased access to remote areas.	Indirect	I, II	Unknown
Surface indications of sites are obliterated.	Direct	I, II, III	Unknown
Gully networks are established and erosion is accelerated.	Indirect	I, II	Unknown
Rapid breakdown of soils and pavements.	Direct	I, II, III	Unknown
Destruction of natural ecosystem surrounding sites.	Direct	I, II, III	Unknown
Stripping of vegetation, accelerating erosion.	Direct, Indirect	I, II, III	Unknown
Existing Roads & Trails			
Continued degradation of sites.	Direct	III	Unknown
Induced erosion.	Indirect	I, II	Unknown
Roads/trails widened.	Direct	I, II, III	Unknown
Shortcuts developed.	Direct	I, II, III	Unknown
Parking and off-road travel.	Direct	I, II, III	Unknown
Increased access to remote areas.	Indirect	I, II	Unknown

Table VII-5-1 (Continued)
APPROPRIATE MITIGATION MEASURES FOR PROPOSED ACTIVITIES

ELEMENT ACTIVITIES AND MAJOR IMPACTS	Impact Type	Mitigation Measures	Effectiveness of Mitigation
Designated Roads, Trails			
Same as for existing roads/trails except fewer routes - intensity of use more focused.			

Data recovery (see Table VII-5-2) or excavation is usually applied where impacts to the cultural resources are unavoidable. Scientific investigation, while providing extremely important information on past cultures, constitutes an irreversible and irretrievable commitment of the resource because it results in reduction of the resource base. Recovery or excavation and subsequent analyses accomplished by utilizing current techniques and theoretical assumptions precludes the use of more sophisticated approaches which may be developed in the future. Paradoxically, it may be preferable to obtain some information now rather than possibly no information in the future because the site has been destroyed. Archaeological resources which are lost to study as a result of these limitations in contemporary recovery techniques represent unavoidable adverse effects.

It is difficult to develop standardized recommendations and mitigation procedures which will prove appropriate and accurate in all situations. General guidelines for resource specific mitigation procedures may be formulated with certain reservations. The technical and procedural recommendations are conditioned not only by the current (1980) research patterns of archaeology, but also by many practical constraints. Limitations of technical expertise, manpower, and funding always affect the ultimate character of research design.

The following mitigation guidelines represent procedures which are recommended as appropriate to the mitigation of specific cultural resource site types. Inventory levels, specific objectives, and research design will always reflect project-specific conditions, e.g., resource complexity, type of impact, research goals, and complementary mitigation measures. The following site type/ mitigation activities can, however, be employed as general guidelines for cultural resource mitigation actions.

Table VII-5-2
MITIGATION GUIDELINES

SITE TYPE-HISTORIC	Possible Mitigation Actions
Villages	Systematic surface collection, excavation, ancillary field studies as determined through the research design process.[1]
Temporary Occupation Camps	Systematic recovery of surface cultural remains, excavation, ancillary field studies as determined through the research design process.
Shelter-Cave	Excavation, ancillary field studies as determined through the research design process.
Milling Station	Recovery, mapping, recording, and photography.
Lithic Scatter	Recovery, ancillary field studies as determined through the research design process.
Quarry Site	Recovery, ancillary field studies as determined through the research design process.
Pottery Locus	Some level of recovery, depending on site size and frequency and diversity of materials, ancillary field studies as determined through the research design process.
Cemetery	Recovery, reburial, or other action as deemed appropriate by local Native American group(s), ancillary field studies as determined through the research design process.
Cremation	Same as above.
Intaglio and Alignment	Mapping, photography, collection of directly associated (affected) cultural materials.
Petroglyphs/Pictographs	Casting, mapping, photography, illustration, clean-up where appropriate, removal of select panels as appropriate, feasible, and necessary.

[1]Collection procedures may require one or more research actions or procedures, i.e. Native American or "old-timer" consultation, mapping, photography, illustration, preliminary testing, (i.e., not more than five 1m x 1m units), subsequent analysis, report preparation, or publication.

SITE TYPE-PREHISTORIC	Possible Mitigation Actions
Trail	Detailed mapping of trail system, at least regionally or subregionally; photo recording; 100% collection of directly associated, affected artifacts; mapping and excavation of directly associated features; ancillary field studies as determined through research design process.
Roasting Pit	Ancillary field studies as determined through research design process.
Isolated Find	Recovery.
Cairn	Excavation depending on size or a sample excavation of cairns dependent on numbers, concentration, research needs, and resources; ancillary field studies as determined through the research design process.
Other site types	Mitigation recovery in such cases will vary according to the fragility and complexity of the site or sites and the nature of the impacts.
SITE TYPE-HISTORIC	
Towns and Camps	Architectural profile, surface artifact recovery, select excavation, ancillary field studies as determined through the research design process (applied to all sites).
Homestead	Architectural profile, surface artifact recovery, excavation.
Roads, Railroads, Trails	As per prehistoric trail guidelines.
Mine	Architectural profile, surface artifact recovery, excavation of structures and features as necessary.
Graveyard	Excavation, analysis and reburial as appropriate.
Trashdump	Excavation/recovery.
Military	Architectural profile, excavation as appropriate.

SITE TYPE-HISTORIC	Possible Mitigation Actions
Other	Architectural profiles, surface collection as appropriate, select excavation dependent on site.
	Mitigation of potential adverse effects to historic sites could call for excavation, photography, mapping, illustration,, analysis, report preparation and possible publication.

Part 6

Cultural Resource Protection Measures

ROLE OF PHYSICAL PROTECTION MEASURES IN THE CULTURAL RESOURCE PROGRAM

Physical protection measures are employed as a supporting action to the management of cultural resource values. Generally, cultural resources are managed for their socio-cultural, scientific, or recreational values. Extensive physical protection measures should be implemented only after making evaluation of the potential uses of a resource in terms of these three value areas.

DETERMINATION OF PROTECTION NEEDS

The physical protection measures employed should be appropriate to the particular use identified for the resource. One of the objectives of the cultural resource element is protection and preservation of cultural resources. In general, the development of physical protection measures must be based on a clear understanding of the values associated with the resource, its potential uses, and the nature of the threats to the resource.

PROTECTION MEASURES AND MANAGEMENT

Physically similar resources which are managed for different uses will likely require different solutions to their physical protection problems. Usually, the preservation of socio-cultural values does not permit manipulation of the resource, although such manipulation may be appropriate in the case of scientific or recreational values. This is particularly true when the socio-cultural values are concerned with religious matters or formal social activities of semi-secret nature, such as initiation rites. Where the rationale for physical protection is the preservation of scientific information, care must be taken to ensure that the measures and methods used do not disturb an equal or greater amount of information than would be lost by allowing the processes of deterioration to take their natural course.

PHYSICAL DETERIORATION OF CULTURAL RESOURCE VALUES

Types of Deterioration

The physical deterioration of cultural resources becomes a matter of management concern when it impacts the values which make the site important for socio-cultural, scientific, or recreational uses. In general, physical changes which could affect the values of a cultural resource can be summarized in the following categories:

Loss of Elements

Natural weathering, decay, and vandalism can remove elements which originally constituted a cultural resource. This loss affects the completeness and accuracy of the information used by scientists and recreation interpreters, and influences the importance of the resource for socio-cultural uses.

Modification of Physical Relationships

Effective scientific use of a cultural resource is very often dependent upon the accuracy of vertical and horizontal measurements among elements of the site. Displacement of original relationships lowers the reliability, or may completely negate the significance, of such measurements in reconstructing the activities and sequence of events at a site.

Modifications of Characteristics

The utility of a cultural resource is often dependent upon the physical, chemical, functional, and aesthetic characteristics of the elements of the site. Changes in these characteristics occur, for example, through process of decay, leaching, and the effects of high heat from fires.

ANALYSIS OF PHYSICAL PROTECTION NEEDS

Identification of Regional Protection Needs

Identification of regional protection needs should be accomplished through the inventory and evaluation process, using information from Class I, II, and III inventories and documented in the plan. Other documentation will draw on special studies, site records and other material on file with BLM and other organizations or institutions.

Identification of Site Specific Protection Needs

Identification of site specific protection needs has not been done in adequate detail in the Plan. In most cases where physical protection is warranted, it will require further analysis in a Cultural Resource Management Plan (CRMP). Identification of site specific needs includes maintenance as well as initial protection efforts. It is possible that what appears initially to be an adequate plan, may be impractical in light of long term maintenance requirements.

Analysis of Trends of Deterioration

Analysis of trends of deterioration is an important part of cultural resource management. It is necessary to develop procedures to anticipate deterioration and take timely steps to avoid the loss of cultural values before it occurs.

Past Trends. The nature of past deterioration and impacts to cultural resources in part has been determined through completion of an impact report

under contract to BLM by Lyneis, Weide & Warren (1980). Reference to source, such as historical aerial photography combined with on-site inspections, may establish and identify the other agents of deterioration active at the site in the part.

Current Trends. The Bureau will initiate a cultural resources monitoring program to (a) assess the effectiveness of the protective classes (Class L, WSA) and area designation (ACEC and element areas) on-site protection and (b) develop baseline information on the types and extent of impacts to prehistoric-historic values from various activities and less-protection class actions (M and I). This monitoring program is spelled out in greater detail in Part 8.

METHODS OF PHYSICAL PROTECTION

In-Situ Protection (Indirect Methods)

These methods refer to protection measures which do not involve the physical modification of the resource itself, such as:

Signing. Under conditions of active or potential vandalism, cultural resources should be adequately signed, identifying the protection afforded by law. Care must be taken to ensure that signs are placed in a manner not to intrude upon the values of the site or to draw attention to the site.

Fencing/gating. According to the control and preventive measures desired, fencing, barriers, railings, and gates can be used alone or in combination for restrictive access. There are different kinds of fences, barriers, railings, and gates, and different materials that may be used. The selection of designs and materials must avoid unwarranted intrusion on the site. In the design of barriers, maintenance requirements and safety must be considered.

Patrolling/surveillance. Patrols and inspections are determined by the fragility of the resource, degree of threat present, and the use and importance of the cultural resource. Patrols should be scheduled with fragile and accessible resources visited as frequently as possible. Where possible, cultural resources will be inspected at least annually and their status reported. Irregularly scheduled patrols are one of the best means of preventing pothunting, vandalism, and other unauthorized use. Patrolling requires careful planning and timing to be effective. In addition to patrolling, surveillance can be accomplished through detection and alarm systems. The installation of surveillance equipment should not impair or compromise the integrity of the cultural resource. These systems may have direct response capability with local, county, state, or Federal enforcement authorities. Their value depends on the response speed of personnel in answering the summons.

Erosion control (off-site). Cultural resources are frequently threatened by various types of erosion. Patrols and inspection surveys should monitor water levels, major runoff areas, movement of sands by wind action, and other potential erosion problems. When erosion is identified, various measures may control it. (1) Adequate drainage may prevent damage to resources. (2) Construction of catch basins, diversion dams, wind breaks, and other protection measures may reduce erosion and protect the cultural resource. (3) Erosion control performed off-site can generally be accomplished at lower cost, with less disturbance of the resource than with on-site erosion control.

Fire control (off-site). An active fire protection program to protect some archaeological sites and historic structures may be warranted in some desert areas. Sufficient detection, communication, transportation, and fire suppression equipment should be available to protect cultural properties from fire. Preventive measures include periodic inspections to determine the causes of fire and how to detect and report a fire. Problem sources include high grass and shrub areas. Care must be taken not to disturb the resource when implementing fire control measures.

In-Site Protection (Direct Methods)

Direct methods of protection include physical work on the cultural resource. Preservation involves the application of measures to sustain the existing terrain, vegetative cover, form, integrity, and material of a site or structure. It includes both initial work and maintenance.

Structural stabilization. Structural stabilization involves materials, techniques, and construction methods used to retard the deterioration of structures. The most common materials encountered in structural cultural resources managed by the Bureau are adobe, stone, metal, and wood.

Erosion control (On-Site). When erosion control is necessary within the boundaries of a cultural resource, particular care must be taken to limit the effects of the control measures on the resource. Unlike off-site erosion control, on-site work must be governed by the techniques and methods of scientific disciplines interested in cultural resources. Engineering construction practices must be modified to allow the proper recovery and recording of information which would be disturbed by the implementation of the erosion control measures. On-site erosion control will usually involve, to some degree, the disturbance of cultural values. Therefore, the planning stage clearly must determine that the information saved warrants the disturbance and loss of information resulting from the implementation of the control measures.

Fencing/gating (on-site). In some cases it may be necessary to selectively exclude access to portions of the cultural resource. As with other on-site physical measures, care must be taken not to damage or intrude upon more values than are protected. However, concern for maintenance of historic integrity must not be carried to the extent that the barriers are not effective.

Fire control (on-site). Since most cultural resources managed by the Bureau are remote, effective on-site fire control is practically limited to preventive measures. (1) Wooden structures can be treated with fire retardant. (2) Trash and litter should be reduced to acceptable levels. (3) In areas of public use, restrictions could be placed on campfires in the immediate vicinity of sites during dry periods. In high areas, it may be appropriate to develop off-site facilities for picnicking and camping. (4) Cave and rock shelter deposits of organic material are also susceptible to fire damage. In such cases, fireproof barriers, such as sand, can be introduced to insulate cultural deposits.

Protection Through Recovery Techniques

When cultural resources cannot be preserved in place, the loss of their values can be reduced through various recovery techniques. This option is generally applicable to scientific values. Preparation of a research design will be undertaken prior to the implementation of any of the techniques described below. Three general recovery techniques are described. In any given case it is likely that a mixture of these techniques would be employed.

Detailed Recordation. The intent of detailed recordation is to document those aspects of a cultural resource which are the source of its utility in historical or scientific studies. The technique includes the use of photographs, maps, drawings, and narrative descriptions developed through nondestructive methods. The basis for all open-site detailed recordation is a large-scale topographic map prepared for this purpose. While small areas can be mapped by means of a plane table, it is generally more cost effective to contract with a photogrammetric engineering firm for a large-scale map. Such maps are more accurate and have greater detail than maps prepared with a plane table. Guidelines for recording historic buildings have been published by the Department of the Interior, Washington. The bibliography lists additional references which provide information on architectural graphic standards, architectural photogrammetry, industrial archaeology, and photography.

Relocation. Some cultural resources can be relocated with minimal impact to their continued utility. This alternative is largely limited to structures and to some forms of prehistoric art work, such as boulders covered with petroglyphs. Relocation of structures usually is expensive and requires special skills and equipment. Efforts at relocation should be carefully planned, with full consideration of alternative methods of preservation.

Data Retrieval. Data retrieval involves the controlled removal of a cultural property in order to maximize the recovery of information relevant to the property's scientific potential. Data retrieval should be attempted only when other protective alternatives are not adequate to preserve the scientific information contained in the site. This technique requires detailed planning, normally including testing, area survey (if necessary to provide a context for the resource impacted), and the identification of specific information objectives, field and laboratory techniques, and analytical methods. The complex of skill, facilities, and the length of time

normally required for adequate data retrieval generally dictates that the work be done by contract with a research institution. Planning for data retrieval must also provide for the long-term curation of specimens recovered from the cultural resource.

Part 7

Mitigation Plans

Areas of the highest potential conflict between valuable cultural remains and multiple uses (where land disturbances would be greatest) are marked by name and internal polygon number for the development of mitigation plans. Such plans will serve to detail the procedures and techniques necessary to ameliorate ongoing or projected impacts.

These areas where mitigation will be needed because of uses resulting from implementing the Proposed Plan are listed below alphabetically in groups of descending order of priority (four groups) based on:

1. The anticipated intensity of uses.

2. The nature of the uses.

3. The position of the cultural resources in relation to the anticipated uses, i.e. topographically.

4. The nature and extent of the cultural resources.

5. The significance of the remains.

6. The extent and type of past uses in modern times.

In many cases management plans for ACECs may lead to mitigation. Other project developments, with appropriate environmental review, may be subject to mitigation of impacts on cultural resources.

Priority Number	Property Name	Cultural Polygon
I	Arroyo Salada	472,473
	Baxter Ranch	183
	Eagle Mountain	373
	Goat Mountain	208
	Jawbone Canyon	143-144
	Johnson Valley	200-201
	McLain Park	
	Olancha	48,49,54
	Rasor Ranch	262A
	Ryan	218
	Spangler Hills	116
	Willow Creek Camp	24
II	Amargosa Rings	228-229
	Big Maria Mountains	401
	Cadiz Lake	367
	Cargo Muchacho	427
	Ford Dry Lake	409
	Lake Cahuilla Shoreline	431
	Manix Lake East	169,272,273,277,280
	Milpitas	416
	Pisgah Crater	281-282
	Plaster City	481
	Sacramento Mountains	339,340

Priority Number	Property Name	Cultural Polygon
	Spanish Canyon	166
	Turquoise Mountain	249,250,257
	West Mesa	476,477
	Wiley Well Wash	411 A&B
III	Arica Mountains	400
	Argus	88
	Bagdad-Chase	284-285
	Broadwell Lake	275
	Cactus Flat	65,68
	Calico Mountains	172
	Cinder Cones	69
	Cottonwood Basin	463
	Dale Mining District	214
	Danby Lake	368
	Darwin-Ophir	51
	Gold Park	215
	Helendale	179
	Indian Spring	302,305,307
	Mescal Range	245,289,291
	North Desert Center	375
	Paiute Mountains	348,351
	Palen Mountains	404
	Paymaster	418 A&B

Priority Number	Property Name	Cultural Polygon
	Portuguese Bench	70-71
	Sheephead Mountains	227
	South Whipples	395,396
IV	Frink Spring/Iris Wash	429,439 (Land Tenure)
	Indio Hills	441,442,443 (Land Tenure)
	Manix Lake-Troy	187 (Land Tenure)
	Randsburg-Atolia	124,148,147 (Land Tenure)
	Torres-Martinez	457,461 (Land Tenure)

Part 8

Monitoring Program

Study plots will be established on existing sites and, time and funding permitting, on simulated/manufactured control sites in the various classes. A priority list of sites will be developed for periodic surveillance by the BLM cultural resource staff. These plots will be used as (1) a measure of plan effectiveness and (2) to better understand and control the adverse effects of various uses primarily responsible for archaeological-historical site destruction. These uses include, but are not limited to, motorized vehicle use, grazing, feral horse and burro activities, general recreation use, material sales, and mining. Both primary and secondary impacts will be assessed as much as possible.

If other as yet unrecognized actions also are found to be responsible for site destruction, additional study plots may be established to monitor these activities, funding permitting. In this fashion, the monitoring program will be dynamic and incorporate new data as they become available.

Since management guidelines in the Desert Plan allow more consumption activities in Classes M and I, more of the study plots will be situated in these classes. Also, Areas of Critical Environmental Concern will be given priority in the placement of study plots.

Measures to be employed in monitoring site disturbance may include qualitative evaluations of site condition (through surveillance by rangers, archaeologists, other staff members and the concerned public) and more objective measurements of the number, condition, size, type, etc., of artifacts and features. These measurements will be undertaken by qualified archaeologists or historians as appropriate and feasible, either by staff or through contractors. They will involve the definition of various sized plots (e.g. 10m x 10m; 25m x 25m; 50m x 50m, and perhaps 10-acre plots) and specific field recording techniques, e.g., mapping, photography of sites, features and artifacts, measurement of artifact-feature dimensions, study of condition, and other observations.

Study plot locations may include: locations where the resources are well known to the public, where the resources have been previously vandalized, where the resources are in a zone of concentrated visitor use, where the resources are obviously deteriorating, and wilderness or protection areas. Two other factors may be of equal importance in evaluating site vulnerability, i.e. sites in remote locations and sites containing "valuable" or marketable artifacts.

Depending on the accessibility of potential study plots to existing and designated roads and the individual situation (as judged by cultural and other resource specialists) they may be visited biannually, annually, biennially or more frequently as appropriate and feasible. It is expected that at a minimum each study plot would be objectively evaluated by a professional archaeologist/ historian every other year for a number of years depending on the situation and perhaps visited by a ranger or resource management specialist on a more frequent, albeit irregular, basis. ACECs may be patrolled more regularly. Rangers and visitor services specialists could also be trained in the recognition of cultural resources and the subjective observation of natural and human-induced impacts to increase patrol effectiveness.

The data base derived from the monitoring studies will provide a basis for evaluating the effectiveness of management techniques both generally (e.g. multiple-use class management) and specifically (e.g., individual management actions: signing, fencing, patrolling, educating, etc.) and, equally important, for recommending mitigation levels or changes in management policy. Monitoring studies could also be used to evaluate impacts to undisturbed portions of previously disturbed sites.

Study plots and simulated/constructed site situations will be studied, where feasible, as part of an experimental program to determine the effects of various erosional and depositional processes on sites as outlined by Lyneis, Weide and Warren (1980) in their report to BLM on "Impacts: Damage to Cultural Resources in the California Desert."

The following are potential locations (contingent on funding need) for monitoring by study plot:

Off-Road Vehicles

Stoddard Valley
Olancha (Southeast Owens Lake)
Rasor Open Area

General Vandalism

White Mountain City
Providence
Ivanpah
Rodman Mountains - Deep Tank
South Sierra Canyons (select)

Grazing

Cedar Canyon - Cima
Ivanpah Valley (with cattle exclosure)
Granite Mountains (with cattle exclosure)
Fort Paiute
North El Paso Mountains (sheep)

Material Sales

East Mesa shoreline near Holtville airstrip

General Mining-Recreation

Panamint City
Cerro Gordo
Mountain Pass
El Paso Mountains (#1)

Remoteness-Wilderness

Santa Rosa Ruins
Golden Valley
Wild Horse Mesa
Black Mountain (El Paso)

Feral Horses and Burros

Saline Valley
Henry Springs

Indirect Impacts Resulting from Motorized Vehicle Use, Recreation, Rockhounding Activities

Salt Spring
Amargosa Canyon
Afton Canyon
Mid-Hills
Indian Pass

Natural and Enhanced Erosion

Harper's Well
Yuha Basin
Eagle Mountain

Part 9

Cultural Resource Management Plans

Cultural Resource Management Plans (CRMPs) are the activity plans of the cultural resource component of the Bureau planning system (BLM Manual Sections 1601-1609), and they document the actions resulting from the Bureau's cultural resource management program. Prior to development and approval of a CRMP, an inventory and evaluation must be completed for the area of plan consideration, and the decisions to be implemented must be drawn from the approved CDCA Plan.

Cultural Resource Management Plans are officially approved plans that are written for a specific area, or a specific group of resources, and which identify cultural resources protection and use objectives, establish the specific nature and sequence of actions to achieve objectives, and outline procedures for evaluating accomplishments.

A number of cultural resource properties have been identified by the Desert Plan cultural resource staff which could benefit from the development of CRMPs. These properties include some of the areas of high and very high cultural resource sensitivity/ significance as determined through the staff inventory and analysis of resources within the CDCA.

The selection of these areas was based on Plan multiple-use class guidelines, and the presence of cultural ACECs. Cultural Resource Management Plans will be developed for archaeological-historical ACECs listed in the relevant Plan section. Other areas were recommended for possible development of CRMPs according to the best judgment of staff cultural resource specialists. The area decisions were based on: (1) the delicacy and significance of cultural resources, (2) research potential, (3) extent and complexity of cultural resources, (4) present uses, (5) amount of disturbance, (6) potential for conflicting uses and impacts, especially recreational, (7) proximity to multiple-use areas of higher impact potential (Classes M and I), (8) multiple-use class, (9) designation in public documents (e.g., ACECs not accepted by management), (10) interpretive potential and, (11) accessibility of area. ACECs will be given priority in the preparation of CRMPs followed by areas listed in Category I and then areas listed in Category II. Properties in each category are listed alphabetically. These recommendations are based on current resource data and new areas could be added or some of these areas dropped depending on future contingencies.

CATEGORY	PROPERTY NAME
I	Aikens Wash
	Beveridge
	Chemehuevi Mountains
	Chicago Valley
	Cow Cove
	Cronese Lakes
	Davies Valley
	East Big Maria Mountains
	El Paso Mountains
	Fish Creek Mountains
	Granite Mountains
	Hunter Canyon
	Ivanpah Dry Lake
	Kingston Range
	NE of Bighorn Mountains
	NE Panamint Valley
	Old Woman Mountains
	Picacho Wash
	Rockhouse Basin
	Rodman Mountains
	Silver Lake
	Southern Sierra Canyons
	Turtle Mountains
	Upper Pleasant Canyon
	Valley Wells
	Vinagre Wash
	Whipple Mountain East
	Wild Horse Mesa
	Woods Wash
II	Amargosa River
	Ballarat Vicinity
	Black Canyon
	Chuckwalla Spring
	Cinnamon Roll Hills
	Coyote Lake
	Deep Canyon
	Eureka Valley
	Fossil Canyon
	Greenwater Range
	Harper Lake
	Hayfield Lake
	Lava Mountains
	Lookout Vicinity
	New York Mountains
	North San Bernardino Mountains
	Northern East Mesa
	Owl Lake
	Palo Verde Mountains
	Pinyon Mountains
	Red Cloud
	Upper Jawbone
	Vidal Valley
	Whipple Mountain West

Part 10

Research Designs

Research questions in the context of a specific scientific research design, can be explicitly approached by archaeologists within California and the California Desert in particular. The Bureau of Land Management's cultural resource management program emphasizes the orderly and systematic utilization of the resource. To this end BLM develops or assists in the development of regional, subregional or site-specific research designs as required. Only in an emergency situation will mitigation be undertaken without benefit of a research design and this at the discretion of the professional charged with the project ressponsibility.

Many research questions within the current pattern of cultural resource management are framed without the benefit of an explicit set of research questions. In some cases research objectives have been discussed within the context of cultural resource overviews and assorted documents, or were implicit in the researcher's mind. In many cases of current and future research, questions, hypotheses and ideas may remain implicit, i.e. not expressed in written form, prior to the actual fieldwork. However, the needs of the Bureau and the public can best be served by using one or more explicit research designs which respond to the scope and nature of each project.

From the Bureau's perspective, research designs will, whenever possible and feasible, be formulated by staff professionals, contractors or those professionals more informally involved.

At the most general level, research questions will be defined for California as a whole (including contiguous areas), for smaller areas of general cultural-environmental distinction (e.g., California Desert), for individual counties or in terms of all three of these levels. Whenever possible and appropriate, research designs will reflect prevailing issues and contemporary theoretical models of the professional community of regional specialists and their representative organizations, institutions and associations, e.g. University of California, Society for California Archaeology, State Office of Historic Preservation, etc. On a regional desert basis, where Federal lands predominate or are significant, research designs will be developed by individuals with expertise in that region as a preferred approach. Such expertise could potentially be drawn from the academic community, the corporate community, or governmental service. This may not always be possible. However, in all cases the responsibility for defining research goals rests not with a single institution, an agency, or with a few individuals but with a large number of researchers and cultural resource specialists representing a variety of institutions, agencies, backgrounds,

and viewpoints. There may be a single principal investigator or coordinator, but it is the role of this knowledgeable person to consult with as wide a gamut of experts as possible.

The mechanisms for achieving regional research goals within the Bureau are several. Class I overviews are now complete for the California Desert. As they are updated or supplemented, the compilation of a reasonably detailed research design will be formally undertaken and periodically revised, e.g., every 10 years. In this manner they will be prepared either internally or under contract.

In some instances regional research designs will be updated as a result of cultural resource contract work involving specific projects on a broad scale (e.g., energy development or other EIS work). It is also apparent that in some cases regional research designs will be provided through the work of the State Office of Historic Preservation and regional offices of the California Site Survey, e.g., the Kern County case. In other instances, academic pursuits may result in regional research designs. In still other cases, agencies, through their cultural resource programs, will undertake, through contract or internally, the formulation of research designs or, at least, research needs and questions. The overview of Joshua Tree National Monument by Thomas F. King and the Colorado River study sponsored by the Water and Power Resources Service are two such studies.

At the subregional or site specific level, research designs should be developed by the individuals who are to undertake the research wherever possible. Generally, these will be accomplished in conjunction with a specific mitigation project or a small areal survey (e.g., less than 200 square miles). These research designs will have to be individually tailored to the situation with sufficient detail to insure the greatest economy in operation and best information retrieval. Research designs preferably will be circulated for peer review prior to actual fieldwork.

Within the hierarchical structure of general, regional, and local or site-specific research designs, considerable interplay and feedback will occur. This assumes that the regional and perhaps the general level designs are complete. All levels can be completed independently, although the most efficient and informative approach will be to incorporate concepts of several levels of research design, except perhaps for the most general. Certainly differing paradigms are going to be expressed at all research design levels. A number of them will be considered at all levels during the formulation of research designs. Where unresolvable disagreements over approaches are encountered then the researcher should have the option of formulating, at a higher level of operationalization research, questions and objectives which fit his or her theoretical orientation.

Part 11

Educational Awareness

It is clear from public opinion polls, responses to the Draft Plan, and other communications that the public places a high value on cultural remains and would like to see more sites protected and opened to visitation. Sites like the famous Calico Site, the Blythe Intaglios and Fossil Falls are examples of interpretive locations.

It also seems clear that the vast majority of the public knows very little about archaeology or desert history and research, and how these might have some applicability to their own lives.[1] Because the public provides support for archaeological and historical research, it is their right to know what the cultural-historical studies are about.

The key to informing the public about the archaeology and history of the California Desert is a public awareness-education program. The results of archaeological-historical research and interpretation can be presented to the public in language and in a format which will hold their attention and be visually attractive. It is up to the professionals to present the human story being unfolded as well as the importance of that story to everyone now and in the future.

Bureau of Land Management professionals should do everything possible and reasonable to encourage participation by a broad spectrum of the public, but always under circumstances where their participation would be accommodated in a reasonable manner.

In the Arlie House report previously cited, a number of questions or points relevant to archaeological-historical interpretation need to be addressed by the professional. Among them:

1. Preservation and protection of resources. These are of primary concern to archaeologists, historians, and the Bureau. Sites are not there merely for the archaeologist to dig.

2. Cultural remains are irreplaceable.

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[1]Cf. Guidelines for Archaeology, The Arlie House Report, Charles R. McGimsey III and Hester A. Davis, Eds. Special Publication of the Society for American Archaeology. 1976.

3. Archaeology and history have humanistic value and appeal.

4. Archaeological-historical remains have scientific value.

5. The fact that archaeology is a branch of the social sciences with sociological-cultural relevance.

6. Are the values being interpreted in a manner compatible with the law and good management practices?

7. Archaeology is a science interlocked with other sciences, such as anthropology, geology, and botany, and other disciplines, such as history and philosophy.

The approaches to public awareness and education need not be in the visual form only. The field, the laboratory, the home, the museum all can play a part.

The primary approach in the written form is in popular books and articles. With the large number of technical studies completed by BLM, a logical step would be a contract for completing such works and/or initiating an internally written series. Such works must be well-illustrated, exciting, interesting, and relevant. Children and adults must be considered, and these works should be published and distributed to libraries and interested parties.

Finally, with respect to the printed word, the Bureau should publish a series of informational leaflets, brochures, and posters regarding desert archaeology and history. Such works devoted to individual locations can be distributed at the sites through kiosks and stands. General pamphlets and brochures should be available at all BLM offices and way stations.

It is incumbent upon the Desert District archaeologists and public affairs personnel to provide information on significant archaeological-historical findings to newspapers and radio and television stations.

An area where the spoken word can be extraordinarily effective is through public lectures to communicate the excitement of archaeology and history as well as archaeological-historical interests and concerns.

Depending upon the nature of the situation, it also is possible for the cultural resource specialists to conduct informative workshops for interested groups. The Desert Awareness events must be continued, but with greater involvement from the specialists. In a similar manner archaeological research projects, especially excavations, should have on-site public education programs similar to those of the Calico Site.

Another media area which can be actively considered by cultural resource and public affairs specialists for educating the public is the development of a series of tape-slide programs regarding cultural values, much like those used in describing the Desert Plan. The American Association of State and Local History has developed and promulgated a series of such programs which have

been of great benefit to historical societies. Their use in classrooms, local fairs and workshops, meetings, etc. would be advantageous to furthering BLM's management goals for cultural resources. Video and audio tapes can be used in a similar manner.

In the three-dimensional range, there are three important areas of public awareness and education to be considered. The first is the development of a desert archaeology-history kit which would tell grade school students what archaeology and history are all about -- and what contributions to knowledge they make.

Little need be said about the value of museum displays. Cooperation with all appropriate museums concerned with desert archaeology and history should be encouraged and followed.

In the field, interpretive centers, trails, signs and displays about cultural resources are one of the most important elements of public education and awareness. Several desert locations are in the process of being interpreted and some signs are already in place. During the completion of various activity plans concerning archaeological-historical values, details for interpretation must be worked out in conjunction with district recreational specialists.

Part 12

Existing Federal Legislation/Bureau Policy Regarding Cultural Resources Relative to the California Desert Conservation Area

DESCRIPTION OF PROGRAM ACTIVITY

The Bureau manages and protects the cultural resources under its jurisdiction or control and avoids inadvertent loss or destruction of cultural resources.

The Bureau recognizes that cultural resources are a fragile and nonrenewable resource with high educational, historic and scientific values.

POLICY (FLPMA SEC. 102(a)(8))

The Congress declares that it is the policy of the United States that the public lands be managed in a manner that will protect the quality of . . . . historical . . . . and archaeological values.

AUTHORITY

Antiquities Act of 1906 (P. L. 59-209; 34 Stat 225; 16 U. S. C. 431-433)

This is the basic legislation for the preservation and protection of antiquities on all Federal land. It establishes criminal sanctions for unauthorized destruction or appropriation of federally owned antiquities; provides for the establishment by Presidential proclamation of national monuments from the public lands; and authorizes through a permit system the scientific investigation of antiquities on Federal lands.

Uniform Rules and Regulations (43 CFR Part 3 and DM Part 310.7.6)

These rules now charge the Secretaries of the Interior and of Agriculture to carry out the provisions of the Antiquities Act. The Secretary of War (now Defense) relinquished authority to the Secretary of the Interior. These rules stipulate guidelines requiring that institutions undertaking archaeological research and curatorial capacity, obtain Federal permits and submit reports. Also, the resultant collections are required to be available to the public.

Recreation and Public Purposes Act of June 14, 1926 P. L. 69-386; 44 Stat. 741; 43 U. S. C. 869)

As amended, this legislation authorizes the lease or sale of lands for recreational and public purposes, including historic sites under certain conditions.

Historic Sites Act of 1935 (P. L. 74-292, 49 Stat. 666; 016 U. S. C. 461 et. seq)

The Act declares it a national policy to identify and preserve for public use historic sites, buildings, objects, and antiquities of national significance for the inspiration and benefit of the people. It led to the establishment of the Historic Sites Survey, the Historic American Building Survey, and the Historic American Engineering Record (now National Architectural and Engineering Record), by giving the Secretary of the Interior the power to make historical surveys, to secure and preserve data on historic sites, and to acquire and preserve prehistoric and historic sites. The National Historic Landmarks program and its Advisory Board were also established under this act to designate properties having exceptional value as commemorating or illustrating the history of the United States. The National Historic Landmarks program was the beginning of the National Register program.

Reservoir Salvage Act 1960 (P. L.3 86-523; Stat.220 16 U. S. C. 469C

This Act provided for the recovery and preservation of "historical and archaeological data" that might be lost or destroyed as a result of the construction of federally funded or licensed dams, reservoirs, and attendant facilities and activities. It was extensively amended in 1974 by P. L. 93-291.

National Historic Preservation Act of October 15, 1966 (P. L. 89-665; 80 Stat. 915; 16 U. S. C. 470)

The Act, as amended (P. L. 94-422; 90 Stat. 1313, and P. L. 94-458, 90 Stat. 1939), expands the national policy toward cultural resources to include those of State and local as well as national significance. These resources should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people. It also establishes the National Register of Historic Places, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and a matching grants-in-aid program for the National Trust.

Section 106 directs all Federal agencies to take into account the effects of their actions on properties included in or eligible for inclusion in the National Register and affords opportunities for the Advisory Council on Historic Preservation to comment on the proposed actions and their effects. Often, in such cases, a Memorandum of Agreement must be signed by all these concerned parties and the sponsor before work can proceed. Compliance procedures are provided for Federal agencies under Section 106 of this Act and Executive Order 11593. The Act has also been amended to provide for the withholding from disclosure to the public of information relating to the location of sites or objects listed on the National Register if the disclosure of specific information would create a risk of destruction or harm to such sites or objects.

Procedures for the Protection of Historic and Cultural Properties (36 CFR 800 and 36 CFR CFT 60)

The Advisory Council on Historic Preservation has established procedures for compliance with the National Historic Preservation Act of 1966, the Executive Order 11593 and the National Environmental Policy Act of 1969 requirements regarding historic preservation. If a Federal agency finds that any undertaking will have an adverse effect on a property on, or determined eligible for inclusion on, the National Register of Historic Places, that agency must allow the Council opportunity to comment on the undertaking. Although the Council comments and recommendations are not binding to the Federal agencies, the consultation and negotiation process and the full Council hearings may prevent preservation controversies from arising by bringing the interests to light early in the project planning and design stages.

The prestigious composition of the Council and its position as an adviser to the President and the Congress on historic preservation matters provide an incentive to Federal agencies to comply with Advisory Council recommendations. The procedures require States to provide for at least one public notice and provide a reasonable time for comment prior to placing a site on the National Register. While an archaeological site might qualify under any of the four criteria established, all archaeological sites can be considered eligible for the National Register under the fourth criterion. "They have yielded, or may be likely to yield, information important in prehistory or history."

Department of Transportation Act of 1968 (P.L. 89-670; 80 Stat. 574; 23 U.S. Code 1 et seq.; in conjunction with the Federal Aid Highways Act of 1966 P. L. 89-574; 80 Stat. 574; 23 U. S. Code 1 et . seq.)

These Acts direct the Department of Transportation to spend funds for the purposes of protecting, avoiding or studying archaeological sites to be affected by federally supported road construction.

National Environmental Policy Act of 1969 (P. L. 91-190; 83 Stat. 852; 42 U. S. C. 4321-4327)

This Act requires evaluation of the effects of major federal actions on environmental resources. Part of the function of the Federal Government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." The Act also establishes the President's Council on Environmental Quality. The principal effect of this Act was to remove archaeology from a reactive posture -- the old salvage approach (i.e., project was about to be initiated, certain funds available, do with them what can be done in the time available). With passage of this Act, the archaeologist has become involved at the earliest planning stage of every major land disturbing project. This permits giving the fullest possible consideration to the cultural values and their protection or judicious use.

Council on Environmental Quality Guidelines of August 1, 1973 (38 FR 20550)

These Guidelines define cultural resources as part of the environment, detail procedures for making and evaluating Environmental Analysis Reports (EARs) and Environmental Impact Statements (EISs), and list agencies with special review competence.

Executive Order 11593 of May 13, 1971 ("Protection and Enhancement of the Cultural Environment", 36 F. R. 8921, 16 U. S. C. 470)

This order directs all Federal agencies to inventory their cultural resources, to submit to the National Register of Historic Places all qualified sites meeting the criteria, and to protect all nominated sites. It also directs the Federal agencies to use due caution with all cultural resources until the inventory, evaluation, and nomination processes are completed. A leadership posture for the Federal Government in cultural resource protection is made policy in this order.

Archaeological and Historical Conservation Act of 1974 (Amendment to the Resorvior Salvage Act of 1960, also known as the Moss-Bennett bill when before Congress; P. L. 93-291; 88 Stat. 174; U. S. C. 469)

This Act provides for the preservation of historical and archaeological data which might otherwise be lost as the result of federally funded construction projects. Any reservoir of over 5,000 acre feet or 40 surface acres must be reported to the Secretary of the Interior so that arrangements can be made to survey the reservoir for archaeological and historical values and salvage those present. The amendment extends the Act to include any Federal construction project or federally licensed or assisted activity or program affecting cultural resources. The Act further provides that up to one percent of funds from the program or construction project affecting cultural resources may be spent to recover, preserve and protect the cultural resource data.

HUD 701 Comprehensive Planning (40 FR 36861)

The Department of Housing and Urban Development requires that planning activities funded under Section 701 of the Housing Act of 1954, as described by the Community Development Act of 1954, be carried out in accordance with Section 106 of the National Historic Preservation Act of 1966, E. O. 11593, and Section 101(b) of the National Environmental Policy Act of 1969. The Rules and Regulations (Section 600.66) for Section 701 outline the steps for including historic preservation and enhancement in the planning process and for preparing an historic preservation assessment.

Submerged Lands Act of 1953 (P. L. 82-3167; 67 Stat. 29; 43 U. S. C. 1301-13159

This Act provides for resource management on the seabed of the Continental Shelf seaward of state boundaries.

Mineral Leasing Act of 1920 (P. L. 66-146; 41 Stat. 437), as amended and supplemented (30 U. S. C. 181 et. seq.)

The Act provides for the disposition, through permitting and leasing, of minerals on public lands (including coal, oil, oil shale, gas, phosphate, sodium, and potassium) for purposes of mineral exploration and extraction. The Secretary of the Interior is authorized to condition mineral permits and leases to ensure the protection of environmental and other land-use values, including cultural resources. In addition, the permittee or lessee may be required to bear the expense of compliance with stipulations.

Geothermal Steam Act of 1970 (P. L. 91-581; 84 Stat. 1566; 30 U. S. C. 1001-1025)

The Secretary of the Interior is authorized to issue leases for development and utilization of geothermal resources and by-products in lands administered by the Secretary, in National Forests or other lands administered by the Department of Agriculture through the Forest Service, and in conveyed lands to which the United States has reserved the right to geothermal steam and associated resources. Regulations implementing the Act include the protection of environmental qualities and surface use and resources. Lessees are required to comply with lease terms and stipulations related to discovered, known or suspected archaeological, paleontological, or historic sites (43 CFR 3204.1).

National Park System Mining Activity Regulations Act of 1976 (P. L. 94-429: 90 Stat. 1342: 16 U. S. C. 1902 et. seq.)

This Act provides that whenever the Secretary of the Interior finds or is notified by an appropriate scientific, historical or archaeological authority that a property found to be nationally significant in illustrating the history of the United States and designated as a natural or historical landmark may be irreparably lost or destroyed by surface mining activities, the Secretary shall notify the person conducting the activity and submit a report to the Advisory Council on Historic Preservation, with a request for alternative measures to mitigate or abate the activity. The Act also authorizes the council to report to Congress on actual or potential effects of surface mining activities on those properties and include recommendations for legislation to protect the properties.

Federal Land Policy and Management Act of 1976 (P. L. 94-579; 90 Stat. 2743; 43 U. S. C. 1701)

This legislation directs the Bureau of Land Management to manage public lands on the basis of multiple use, and in a manner that will ". . . . . protect the quality of scientific, ... historical, ... environmental . . . . . resources, and archaeological values," and that, where appropriate, will preserve and protect certain public lands in their natural condition. The Act authorizes the disposition, exchange, and acquisition of land; requires the inventory of public land; provides for long-range, comprehensive resource planning; authorizes the Secretary of the Interior to make rules and

regulations pertaining to the public lands; and provides for the enforcement of public land laws and regulations.

Archaeological Resources Protection Act of 1979 (P. L. 96-95; 93 Stat. 721)

The Act strengthens the policy of the United States to protect archaeological resources and sites on public lands by providing stiff penalties to those found guilty of excavating, removing, transporting or selling these resources without a permit. The authority to issue permits for cultural resource work on the public lands (currently under the Departmental Consulting Act (DCA)) will be turned over to the various agencies. The Archaeological Resources Protection Act does not repeal the Antiquities Act of 1906. The Antiquities Act remains a viable statute which can be invoked for violations not covered by the recent Act. While an individual cannot be prosecuted under P. L. 96-95 for collecting arrowheads on the public lands, such activity is still illegal under the Antiquities Act.

The National Trail System Act of October 2, 1968 (82 Stat. 919, P. L. 90-543)

The Act provides a policy similar to the Wild and Scenic Rivers Act for cultural values in a national trail system.

Existing Memoranda of Agreements, Memoranda of Understanding, and Rules Regarding Cultural Resources

Programmatic Memorandum of Agreement among the Department of the Interior, Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers regarding the Livestock Grazing and Range Improvement Program.

Memorandum of Understanding pertaining to Bureau of Land Management, California Policy for Native American concerns and cultural resource management among the Native American Heritage Commission, the State Historic Preservation Officer and the Bureau of Land Management, California.

Cooperative Procedures pertaining to the protection of cultural resources related to geothermal lease operations between the Bureau of Land Management and the U.S. Geological Survey.

Cooperative Procedures pertaining to the protection of cultural resources related to upland oil and gas operations between the Bureau of Land Management and the U.S. Geological Survey.

Rules pertaining to the Surface Management of Public Lands under the U.S. Mining Laws 43 CFR 3809 (Draft). March 3, 1980 Federal Register.

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APPENDIX VIII

NATIVE AMERICAN

Table of Contents

APPENDIX VIII

NATIVE AMERICAN

Part	Title	Page
1	Memorandum of Agreement Pertaining to Bureau of Land Management California Desert Conservation Area Policy for Coordinating Native American Reservation Tribal Review of Environmental Impact Documentation	85
2	Memorandum of Understanding Pertaining to Bureau of Land Management, California Policy for Native American Concerns and Cultural Resource Management	96
3	Traditional Native American Values	102
4	Legislation and Native American Values	105
5	Sensitivity and Potential for Mitigation	109

APPENDIX VIII

NATIVE AMERICAN

Part 1

Memorandum of Agreement
Pertaining to Bureau of Land Management
California Desert Conservation Area
Policy for Coordinating Native American Reservation
Tribal Review of Environmental Impact Documentation

Among
State of California Native American Heritage Commission (NAHC)
and
Bureau of Land Management (BLM)
U.S. Dept. of the Interior

The environmental review authority of Native American Reservations and Tribal organizations is outlined through a number of Federal and State statutes. The National Environmental Policy Act of 1969 (NEPA: 40 CFR 1500-1506) provides guidance for both mandatory and discretionary coordination with Native American Tribal groups[1]. NEPA guidelines require the involvement of Indian tribes in the review of Environmental Impact Statements wherever reservation lands may be affected (40 CFR 1503.1). Federal agencies must also provide a direct response to these comments within a period not normally to exceed ninety (90) days (40 CFR 1506, 10).

Special provisions for coordination and review of Federal programs are established under more specific statutes. These include the Indian Self Determination and Education Assistance Act (88 STAT 2203, Sec. 104) and the American Indian Religion Freedom Act (42 USC 1996). Special consideration is directed in this context to natural and cultural resources of traditional value to Native Americans.

Regional environmental review authority for Native American Tribal organizations, as well as State-level coordination through the Native American Heritage Commission, is outlined in AB 4239 (Chapter 1332, Stat. of

[1]Tribal Groups for puposes of this document will include all federally recognized Tribal governments and organizations.

1976; Division 5, Sec. 5097.9, State of California Public Resources Code). State agency responsibility is also outlined through the California Administrative Code, Title 14, Division 6 and the California Environmental Quality Act (Sec. 21001). These statutes direct the identification and protection of cultural values through coordination with contemporary California Native Americans.

The purpose of this agreement is to eliminate ambiguity and inconsistency among State and Federal agencies and provide clarification in:

1. Identification of tribal organizations.

2. Time-frames for tribal review and agency response to comments.

This memorandum of agreement is developed in an effort to refine and clarify the role of California Native American Tribal groups and organizations in the Environmental Impact Statement review and procedures of the BLM and the NAHC. An appendix is attached identifying regional Tribal governments and organizations. This list will be employed for purposes of circulating environmental documents for Tribal government review. This document identifies the appropriate and current Tribal governments and organizations and outlines EIS review procedures of the undersigned agencies.

These coordination procedures, defined and guided through the stipulations below, will ensure the consistent and sufficient involvement of Native American governments in the EIS environmental document review process by the Bureau of Land Management.

This agreement will be implemented in a manner consistent with the Memorandum of Understanding pertaining to BLM California Policy for Native American Concerns and Cultural Resource Management (3/4/80), and does not address Sec. 106 of the National Historic Preservation Act.

Stipulations

1. The BLM agrees that:

   a) The agencies' replies to tribal comments will specifically address both issues of material impacts and impacts identified by Native American respondents which may adversely affect religious and heritage values.

   b) Environmental Impact Statements will be distributed for purposes of review to all Tribal groups (listed in Appendix) which traditionally occupied and utilized an area of potential impact or where reservation lands could be affected. Such contact shall satisfy the BLM's NEPA Notice requirements relative to Native American Indian Reservations.

   c) The BLM will provide specific responses to Tribal review comments within ninety (90) days of the date of receipt.

2. The BLM and NAHC agree that:

   a) Identification of impacts to areas of cultural importance or religious significance, as identified in the NEPA review process, will be handled as "sensitive." Disclosure of sensitive cultural value data will be coordinated with the responding Tribal Groups and the Heritage Commission.

   b) Distribution to appropriate and current Tribal governments fulfills the Bureau's Notice requirements consistent with the intergovernmental coordination regulations outlined in NEPA (40 CFR 1503.1).

   c) The appended Tribal government list will be adopted by the signature agencies as a tribal coordination guide in the NEPA consistency review process.

3. The Native American Heritage Commission agrees:

   To assume responsibility in revising and updating the appendix list annually. Revised contact lists will be adopted by all of the undersigned agencies and forwarded to BLM California district and area offices.

Signed

wjf Date July 9, 1980 Jay Johnson
Native American Heritage Commission

Date July 9, 1980
Bureau of Land Management

APPENDIX "A"

CALIFORNIA NATIVE AMERICAN TRIBAL ORGNIZATIONS
AND GOVERNMENTS
IN THE CDCA

1. Augustine Band of Mission Indians (Cahuilla)
   Thermal P.O: General Delivery

   Riverside County

2. Chemehuevi
   Chemehuevi Tribal Offices, Havasu Lake, California

   San Bernardino County

3. Colorado River Indian Tribes (Mohave, Chemehuevi, Hopi, Navajo)
   Rt. 1. Box A Parker, Arizona 85344

   Yuma County

4. Barona Group of Capitan Grande Band of Mission Indians
   (See Capitan Grande) (Diegueno)

   Barona Tribal Office
   1095 Barona Road
   Lakeside, CA 92040
   Telephone: (714) 443-6612, 6613

   San Diego County

5. Big Pine Band of Owens Valley Paiute-Shoshone Indians
   (Paiute-Shoshone Tribe)

   Big Pine Tribal Office
   P.O. Box 384
   Big Pine, CA 93513

   Inyo County

6. Paiute-Shoshone Tribes

   Bishop Indian Tribal Council
   P.O. Box 548
   Bishop, CA 93514

   Inyo County

7. Cabazon Band of Mission Indians (Cahuilla)

Cabazon Tribal Office
83-203 Indio Blvd. #2
Indio CA
Telephone: (714) 932-7083)

Riverside County

8. Cahuilla Band of Mission Indians (Cahuilla)

c/o Mrs Jomay Modesto
P.O. Box 413
Anza, CA 92306

Riverside County

9. Mission Band of Indians of Campo (Diegueno)

c/o Mrs. Valacia Thacker
P.O. Box 1094
Boulevard, CA 92205
Telephone: (714) 478-5864

San Diego County

10. Capitan Grande Band of Mission Indians
(See Barona and Viejas)

Alpine P.O. General Delivery

San Diego County

11. Cuyapaipe Band of Mission Indians (Diegueno)

Cuyapaipe Tribal Office
P.O. Box 400
Santee, CA 92071
Telephone: (714) 449-8990

San Diego County

12. Fort Independence Reservation (Northern Paiute)

P.O. Box 67
Independence, CA 93526
Telephone: (714) 878-2039

Inyo County

13. Inaja and Cosmit Reservation (Diegueno)

c/o Josephine Leo (Mrs.)
P.O. Box 186
Ysabel, CA 92070
Telephone: (714) 765-1993

San Diego County

14. Kawaiisu Band

c/o Andrew Greene
713 Brentwood Drive
Tehachapi, CA 93561

Kern County

15. Lone Pine Reservation (Paiute-Shoshone Indians of the Lone Pine Community)

P.O. Box 917
Lone Pine, CA 93545
Telephone: (714) 876-5414

Inyo County

16. Los Coyotes Band of Mission Indians (Cahuilla)

c/o Banning Taylor
P.O. Box 249
Warner Springs, CA 92086
Telephone: (714) 782-3269

San Diego County

17. Manzanita Band of Mission Indians (Diegueno)

c/o Judy Ann Elliott
P.O. Box 1244
Boulevard, CA 92005
Telephone: (714) 477-6994

San Diego County

18. Mesa Grande Band of Mission Indians (Diegueno)

c/o Mrs. Jessie Beresford
210 1/2 W. 13th Ave.
Escondido, CA
Telephone: (714) 745-9061

San Diego County

19. Fort Mohave (Mohave)

P.O. Box 798
Needles, CA 92393

San Bernardino County

20. Morongo Band of Mission Indians (Cahuilla)

Moronga Band of Mission Indians
11555 Potrero Road
Banning, CA 92220
Telephone: 849-4697

21. Pala Band of Mission Indians (Luiseno)

c/o Mrs. LeeAnn Hayes
General Delivery
Pala, CA 92059

San Diego County

22. Panamint-Shoshone Band

c/o Pauline Esteves
P.O. Box 108
Death Valley, CA 92328

San Bernardino County

23. Pauma Band of Mission Indians (Luiseno)

Pauma Tribal Office
P.O. Box 86
Pauma Valley, CA 92061
Telephone: (714) 742-1289

San Diego County

24. Pechanga Band of Mission Indians (Luiseno)

c/o Vincent Ibanez
P.O. Box 181
Temecula, CA 92390

Riverside County

25. Fort Yuma Reservation (Quechan)

Quechan Tribal Office
Indian Rock Road
Winterhaven, CA 92283

Imperial County

26. Ramona Reservation (Cahuilla)

Valley Vista P.O. General Delivery

Riverside County

27. Rincon Reservation (Luiseno)

P.O. Box 68
Valley Center, CA 92082
Telephone: (714) 749-1051

San Diego County

28. San Manuel Band of Mission Indians (Serrano)

c/o Tom Manuel
Rt. 2., N. Victoria
Highland, CA 92346
Telephone: (714) 864-0049

San Bernardino County

29. San Pasqual Band of Mission Indians (Diegueno)

Tribal Secretary
P.O. Box 114
Valley Center, CA 92082
Telephone: (714) 749-3200

San Diego County

30. Santa Rosa Indian Community (Tache - Tachi - Yokut)

16300 Alkali Drive
Lemoore, CA 93245

Kings County

31. Santa Rosa Band of Mission Indians (Cahuilla)

c/o Anthony Largo
325 N. Western St.
Hemet, CA 92343

Riverside County

32. Santa Ysabel Band of Mission Indians (Diegueno)

c/o Ignacio Scerato
Star Rt., Box 148
Valley Center, CA 92082

San Diego County

33. Soboba Band of Mission Indians (Luiseno)

Soboba Band of Mission Indians
P.O. Box 487
San Jacinto, CA 92383
Telephone: (714) 654-2765

Riverside County

34. Sycuan Band of Mission Indians (Diegueno)

5441 Dehesa Road
El Cajon, CA 92021
Telephone: (717) 445-4073

San Diego County

35. Torres-Martinez Band of Mission (Cahuilla)

c/o Theodore P. Torro
41060 Sunset Lane
Hemet, CA 92343
Telephone: (714) 658-4619

Riverside County

36. Twenty-Nine Palms Band of Mission Indians (Luiseno)

c/o Jesse Mike
Twenty-Nine Palms P.O. - General Delivery

San Bernardino County

37. Viejas (Baron Long) Group of Capitan Grande Band of Mission Indians (Diegueno)

Viejas Tribal Council
P.O. Box 908
Alpine, CA 92001

San Diego County

Memorandum of Understanding
Pertaining to Bureau of Land Management,
California Policy for Native American
Concerns and Cultural Resource Management
among
The Native American Heritage Commission
and
The State Historic Preservation Officer
and
The Bureau of Land Management, California

The protection of Cultural Resource sites is based on a series of statutes beginning with the 1906 Antiquities Act. The Act (PL 39-209; 34 Stat. 225) provides penalties for those who excavate or appropriate cultural values without a permit. Subsequent legislation requires that the affected Federal agency must identify, evaluate and protect those sites which meet the National Register criteria (EO 11593, 36 CFR 800). Agencies must also use due caution until such inventory, evaluation and designation procedures are completed for all lands under their jurisdiction (EO 11593, Historic Preservation Act of 1966 as amended 1976; Archaeological and Historic Preservation Act of 1974).

NEPA (1969) further directs that the Federal Government should "preserve important historic, cultural, and natural aspects of our national heritage."

It is clear from this brief review of Cultural Resource legislation (Antiquity Act, Historic Preservation Act of 1966, etc.) that the thrust of Federal legislation is toward protection of on-the-ground cultural manifestations, i.e., physical properties.

In addition, the Bureau Manual on Cultural Resources Management (Section 8100. 02C) directs that the Cultural Resource Management Program will maintain and enhance both scientific and socio-cultural values.

The inclusion of Native American traditional values as an aspect of Cultural Resource Management is based upon a number of legislative statutes and guidelines. General outlines of civil and religious rights are included in the Indian Civil Rights Act of 1968 and Indian Self-Determination Act of 1975 (PL 93-638). Specific treatment of Native American traditional culture and religion is directed in the American Indian Religious Freedom Act of 1978 (PL 95-341). This act identifies the unique concerns of Native people in relation to programs of prehistoric and historic research, recovery and the policies and procedures of Federal agencies. The BLM has developed these

management guidelines which we feel are consistent with this legislative resolution.

One of the most serious concerns on the part of the Native American community is protection of informant information, inasmuch as the protection of informant data is not specifically covered under any statute. It is however, the opinion of the Bureau of Land Management that primary data gathered in the inventory process for planning or project purposes may be withheld from Freedom of Information Acts requests. Archeological and Historical site data resulting from such inventories may be held confidential under the provision of the Archeological Resources Protection Act of 1979 (PL 96-95, Section 9(a)). Cultural Resource data, archeological and historic is also confidential when the site is on, or eligible for, the National Register of Historic Places. Policy under the Bureau's Cultural Resource program is that raw field inventory data are considered privileged and will be released only in circumstances where it is in the best interest of the informants or the resources to do so.

It should be pointed out that we have not, to this point in time, had a request for Cultural Resource data of any type in California. Formal Freedom of Information Act requests, we feel, should not present a major problem in that all sensitive information will be restricted from the provisions of the Act.

Basically, our policy in respect to Cultural Resources in the overall sense of the term addresses our procedures for use of Native American and Archeological/Historic data as well as our procedures in acquiring such data.

1. Native American Policy

   a) During planning inventories or projects inventories, per provisions of the American Indian Religious Freedom Act (PL 95-341), the local Native American community shall be contacted, advised, and their comments solicited. If a local Native American community is not identifiable, the Native American Heritage Commission shall be contacted. Ethnographic research which includes contact and consultation with knowledgeable members of the local Native American community is essential to properly identifying cultural heritage values and concerns. Consultation should occur with those California Indians recognized by the local Indian community as knowledgeable about traditional heritage values, or a particular aspect of the community's heritage and cultural legacy. Individuals to be consulted include tribal elders, traditionalists, folklorists, and practitioners of Native crafts, the healing arts, and religious ceremonies.

   b) Access and duplication privileges shall be arranged so as to provide copies of primary data to the Native American community. The information provided by the consultant must be reviewed and concurred in by the same individual to ensure accuracy and

acceptance. The instructions of the consultants must be followed with respect to maintaining the confidentiality of site locations or other sensitive information.

c) Requests received from the local Native American community for heritage and skeletal materials recovered on public lands to be used for religious, ceremonial, native crafts, medicinal purposes, or cultural displays shall be handled on a negotiated case by case basis.

d) Heritage/ethnographic resources information will be supplied to the California Native American Heritage Commission upon an "as requested" basis and to local Native American community on a negotiated basis.

e) Assistance in the development of Bureau of Land Management policy revisions on custodianship policies and regulations concerning artifacts will be solicited from the Native American communities and the Native American Heritage Commission.

f) When ethnohistory/ethnographic research requires Native American consultants having expertise in cultural heritage interpretation, payment for their services will be equal to that of other specialists and professionals.

g) Specific mitigation and management recommendations from the Native American community will be solicited for the purpose of incorporating their concerns within environmental documents. Sufficient data both in the form of ethnographic and ethnohistoric research must be provided. The most significant aspect of this component will be the values the Native American community place on heritage resources.

h) The Bureau will consider on a case-by-case basis requests for access to areas under the jurisdictional authority of the Bureau of Land Management, which have been formally closed to access.

i) The Bureau will encourage local Native American participation in programs that interpret Native American culture and history.

j) The Bureau will allow Native American free access to sites of religious and ceremonial significance.

k) The Bureau will allow Indian access to traditional collecting areas. This will not permit the collection of presently protected or endangered species.

l) Permanent residency requests for lands under jurisdiction of the BLM will <u>not</u> be considered.

2. Ongoing coordination with the Native American community and representative agencies. The Bureau will communicate to and coordinate the concerns of the Native American community with responsible local, state, or federal agencies which empowered to act or respond to those concerns.

3. Cultural Resource Policy. The Cultural Resource program is designed to inventory, evaluate, plan and manage cultural resources on lands administered by the Bureau and in areas of Bureau responsibility. The objectives of the program are to:

   a) Protect and preserve representative samples of the full array of cultural resources for the benefit of scientific and socio-cultural used by present and future generations.

   b) Ensure that cultural resources are given full consideration in all land-use planning and management decisions.

   c) Manage cultural resources so that scientific and socio-cultural values are not diminished but rather maintained and enhanced.

   d) Ensure that the Bureau's undertakings avoid inadvertent damage to cultural resources, both Federal and non-Federal.

4. Compliance Requirements. Legislative mandates require that all Bureau resource programs undertake cultural resource inventory, evaluation, compliance, and mitigation work for any of their actions that might affect cultural resources. Procedures developed by the cultural resource program are utilized by other resource programs to do this work. All Bureau programs, as benefiting activities, are responsible for funding:

   a) Cultural resource inventories and evaluations needed to ensure site specific compliance, in addition to data provided through the Land Use planning process;

   b) Compliance documentation for Section 106 of the National Historic Preservation Act of 1966 and the National Environmental Protection Act;

   c) Cultural resource protection work needed to mitigate effects of their projects upon cultural resources.

5. State Historic Preservation Officer (SHPO). The Bureau has the responsibility to coordinate its Cultural Resource program with the SHPO, who in turn:

   a) Assures that Native Americans have been involved throughout the National Historic Preservation Act process and that their values have been considered.

b) Reviews and comments on National Register nominations prepared by the Bureau;

c) Reviews and comments in regard to Section 106 (NHPA) compliance requirements;

d) Provides the Bureau an opportunity to comment upon National Register nominations prepared by the SHPO for properties on Bureau-administered lands.

e) Provides, through its Regional Offices, permanent trinomial archaeological site numbers for sites recorded on Bureau lands, as required in the SHPO document review process as part of the SHPO Statewide inventory process.

f) The Bureau will, in conjunction with the SHPO, per 36 CFR 800, attempt to develop Memoranda of Agreements on all specific areas affected by Bureau permitted, or allowed development.

g) Provide information regarding National Register of Historic Places, State Historic Landmarks, Points of Historic Interest and/or other cultural properties which may be located in or near a proposed project.

6. Advisory Council on Historic Preservation.

a) The Bureau has the responsibility to maintain coordination with the Advisory Council on Historic Preservation per 36 CFR 800.

(1) The Bureau will afford the ACHP an opportunity to review those actions/plans where National Register or National Register eligible sites are involved.

(2) The Bureau will develop and submit to the ACHP all cultural programs after consultation with the SHPO.

7. National Register and Landmarks. The Heritage Conservation and Recreation Service, Interagency Archaeological Services maintains the National Register of Historic Places and the National Historic Landmark programs. The Bureau will submit National Register nominations or eligibility determinations to the HCRS-IAS as required. The HCRS-IAS does not manage Bureau-administered National Register properties and National Historic Landmarks; full management responsibility is with the BLM.

8. Antiquities Permits. The Bureau and the HCRS-IAS have a complementary role in the issuance of Antiquities Permits. The HCRS-IAS, as the representative of the Secretary of the Interior, receives and distributes applications to concerned Federal land-managing agencies for review and concurrence. Based on the concurrence of the Federal land-managing agency, the HCRS-IAS issues permits for cultural resource investigations

to qualified institutions. The Bureau, as a Federal land-managing agency, has responsibility for analyzing, field checking, and processing permit applications for actions on Bureau-administered lands. The Bureau also has the responsibility for field compliance checks once a permit has been issued to ensure that the permittee meets the requirements of permit stipulations.

a) All artifacts, notes, records, photographs, etc., which are removed from public lands shall be managed as Federal property under the provisions of the 1906 Antiquity Act.

b) Artifacts, but not notes, records, photographs, etc., shall become the property of the private land owner when the surface lands are not under the jurisdiction of the BLM.

c) All facilities for the repository of Federally owned cultural material must be acceptable to the BLM and will be reviewed to establish suitability.

February 27, 1980
Date:

Victoria L. Roberts
Native American Heritage Commission

February 27, 1980
Date:

Kenneth Ellon
State Historic Preservation Officer

March 4, 1980
Date:

California State Director
Bureau of Land Management

Traditional Native American Values

Native American tribes, religions, and peoples exist today as distinct, historically continuous groups within American society. Their attachment to the land is a fact well established in American history. The American government, through treaties and agreements, has recognized their rights and needs in providing a land base for most Indian governments and their members.

Indian religious practices, which form an integral part of their culture, tradition and heritage, are also intimately associated with and dependent upon the natural environment unlike most major world religions. A basic philosophy of tribal religions is to remain in constant and consistent relationship with nature as responsible participants in the continual process of creation. Their responsibility toward continual creation in particular and nature in general does not necessarily coincide with their sociopolitical territory (land allotment) but often lies in noncontiguous areas where traditional sacred sites, ritual practices, and religious materials are located.

The Native Americans living in the California desert have persisted through several centuries in the same environment with distinct cultural systems which, although they change through time, stand in contrast to other cultural systems. Each cultural system holds specific sociocultural values. As Bean (1978:583) stated:

> Cahuilla values were clearly related to basic environmental and economic circumstances. Tradition was authority, and the past was the referent for the present and the future. Correct behavior and access to power were correlates of one another, and innovative actions were seen as potentially dangerous. Oral literature was quoted to access the value or appropriateness of taking action in crisis situations.

As specified in the BLM Manual, Section 8100, these sociocultural values consist of the importance attributed to an object (including flora and fauna), structure, place, living thing, lifestyle or belief by a group based on the group's perception of the object's role in maintaining their heritage or their existence as a group. Further, these values are usually expressed in qualitative rather than quantitative terms.

Native American values are frequently, but not always manifested in places, objects, structures, and things of importance which then become significant sociocultural resources to the particular group. In keeping with

governmental policy, these resources and values have the right to protection as expressions of religious freedom.

Throughout the world, religion defines the way the universe is, thus making it possible to establish an appropriate stance to take toward it and validate particular ways of feeling, acting, and living for a group of people. As Lenski (1963:33) stated, religion is "a system of beliefs about the nature of the force(s) ultimately shaping man's destiny, and the practices associated therewith, shared by the members of a group." The basic components of a religious system are ritual behavior, a symbolic system and a body of myths which validate the belief system. As all cultures are integrated systems, religion affects, and is in turn affected by, all other aspects of the overall system and changes or evolves accordingly.

Unlike some major world religions, Native American religions embody a belief system in which members view and interact with the environment in a systematic or holistic way. That is, if a part of the environment is removed, changed or even added to, then its spiritual or sacred quality is also affected. This is particularly true of the environment which has been part of the traditionally Native American heritage. One of the primary responsibilities of the traditional native religious leaders has been the persistent maintenance of the relationship between the group and the supernatural, as manifested in the environment.

Native American values are frequently expressed in the gathering and use of natural substances from the land. Ensuring the spiritual efficacy of plant, animal, and mineral products requires the proper traditional gathering techniques. The time selected for gathering may be determined in several ways: (1) the immediacy of the need, such as an illness which requires a curing ceremony; (2) the problem of arranging access, such as to a hot springs or travel to distant places; (3) the seasonal harvest, such as for acorns (fall), pine nuts (fall), chia (late spring) or juniper berries (June-August); or (4) specific tribal traditions or individual beliefs which proscribe specific requlations, such as time of day, about ritual sequencing.

When Native Americans engage in collecting, they frequently are subject to specific religious prohibitions. Preparatory rituals may be necessary, for example, since the natural substance may be affected by the proximity, behavior, and condition of the gatherer(s).

Values are also expressed in terms of specific locations. The locations of gathering places are known through tradition and may, of necessity, be varied according to availability, dependent upon changes in climatic conditions or regular cycles resulting in scarcity or abundance. For example, the Pauite have traditionally alternated their pine nut collection areas every year following a communal decision made after reports from an advance scout. Gathering may take place very quickly, as when a particular plant substance is needed for an ingredient of a medicinal drink, or over a period of time, such as the establishment of a temporary camp for pine nut collection.

Although Native Americans express reverence toward the total environment, certain areas are considered holy or sacred. Generation upon generation have orally recounted origin myths and other oral narratives which validate the group and enumerate the sacred places. The places where religious events have occurred, where spiritual beings dwell, or traditional burial grounds are,are counted as particularly sacred. Special behavorial rules are appropriate; reverential conduct is expected here as with most other religions. Inappropriate behavior may result in desecration, some types of which may have consequences to the individual, group, clan, tribe or humankind as a whole. For this reason, and from long historical experience, Native American religions have sanctions against divulging information about ceremonies, traditional rites, and sacred sites. History and past experience have demonstrated to Native Americans that a policy of secrecy has been one of the few effective means of protecting and preserving both their religious practices and the sacred areas left to them.

Part 4

Legislation and Native American Values

INTRODUCTION

Both Federal and State legislation and policy have increasingly provided for the preservation and protection of Native American values and cultural resources, particularly where these values are located in traditional land areas. The following description of the pertinent legislation mandates certain rights, and the means for securing them, of Native Americans today.

The philosophy expressed in the National Environmental Policy Act of 1969 (NEPA) is consistent with Native American values where environmental protection is the major goal. NEPA requires environmental impact statements (EIS) prior to any proposed action that could adversely affect the environment. Before preparation of a final EIS, every Federal agency must consult with and request comments from Indian tribes when the adverse effects may impact reservations. This policy, in effect, mandates specific coordination with Native Americans which is consistent with the procedures followed with state and local agencies.

Land acquisition for American Indian reservations is provided for in the Indian Self-Determination and Educational Assistance Act where such land is within reservation boundaries or adjoins one on at least two sides and is held by a Federal agency. This provision not only results in land acquisition but in Native American values and resources being applicable to contiguous, nonreservation lands also.

The protection and preservation of Native American religions has recently been legislated in the American Indian Religious Freedom Act of 1978. Native Americans now have the religious freedom to worship in ceremonials and traditional rites, the use and possession of sacred objects, and access to sites. In complying with this policy, Federal agencies must examine their regulatory and enforcement policies following consultations with native traditional religious leaders. The guarantee of access to religious or sacred sites makes consultation with Native Americans particularly significant where adverse impacts could take place on Federal lands.

In California, the Native American Heritage Commission was created to safeguard the religious rights and cultural heritage of Native Americans (State of California Assembly Bill No. 4239). The commissions' responsibilities include assistance in obtaining appropriate access for ceremonial or spiritual activities, and supporting legal action to protect sacred sites. A Memorandum of Agreement between the Bureau of Land

Management and the Native American Heritage Commission clarifies the role of Native American tribal groups and organizations in environmental review and outlines the contact and coordination process for EIS review.

Under the mandate of Section 4 of Public Law 96-95, Federal land managers are required to protect any religious or cultural sites from harm or destruction which could result from an issued permit. Before issuing such permit, the Federal manager must notify any Indian tribe which may consider the site to have religious or cultural importance. Under Section 9, information concerning the nature and location of any archaeological resource for which the excavation or removal requires a permit may not be made available to the public.

Regulations For Implementing The Procedural Provisions Of NEPA[1]

The National Evironmental Policy Act of 1969 mandates Federal responsibility for preserving historical, cultural, and natural aspects of our national heritage. As all Federal agencies are charged with reviewing their programs to determine environmental impact, the Council on Environmental Quality has established over-all regulations for the uniform implementation of NEPA. Native American tribes are specifically requested to comment on the significance of a particular action during the coordination of environmental impact statements. The regulations state that after preparing a final EIS, the agency shall request the comments of Indian tribes when there may be effects on a reservation (Section 1503.1 (a) (2) (ii)). Therefore, specific coordination with Native Americans is mandated along with the other appropriate State and local agencies.

Indian Self-Determination And Education Assistance Act (1975)[2]

The purposes of this Act include providing for maximum Native American participation in government, providing for full participation in programs and services conducted by the Federal government for Native Americans, and encouraging the development of their educational, medical, and political resources. In addition to the broad outlines of civil and religious rights of Native Americans, this Act includes a specific provision for land acquisition. The Secretary of the Interior is authorized to contract with or make a grant to any tribal organization for the acquisition of land in connection with the strengthening of tribal government. Such land acquisition is based on the provision that the land is within the boundaries of the reservation or adjoins on at least two sides lands held in trust by the United States for the tribes. If this provision is met, the Secretary may acquire such land in trust for the tribes.

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[1]43 F.R. 55978-56007, November 29, 1978;CFR Parts 1500-1508
[2]P.L. 93-638; 88 STAT. 2203; 25 U.S.C. 450

American Indian Religious Freedom Act (1978)[1]

This legislation is the most recent and important step in guaranteeing the religious freedom of Native Americans under the First Amendement of the U.S. Constitution. It acknowledges that the religious practices of the American Indian are an integral part of their culture, tradition, and heritage and form the basis of Indian identity and value systems, and further, that traditional American Indian religions are indispensable and irreplaceable. It recognizes that a lack of a clear, comprehensive, and consistent Federal policy has resulted in the abridgement of the traditional American Indians' religious freedom. The result has been denial of access to sacred sites, prohibition of use or possession of sacred objects, and, in some cases, the actual interference in or banning of religious ceremonies.

The law states that it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise traditional reigions. All Federal agencies must examine their regulations and enforcement policies to make the administrative changes necessary to comply with this policy. Policy evaluation and revision must be made in consultation with Native American traditional religious leaders.

Archeological Resources Protection Act Of 1979[2]

This legislation was passed to implement the Antiquities Act of 1906 and specifically to protect archeological resources on public and private lands. It recognizes that these resources are an accessible and irreplaceable part of the nation's heritage and that they are increasingly endangered because of their commercial attractiveness. It requires a permit, for which the applicant must meet certain requirements, from the Federal land manager to excavate or remove any such resource on public lands or Native American lands. If a permit may result in potential harm to or destruction of any religious or cultural site, the Federal land manager must notify the appropriate Native American group(s) before issuing the permit. Violaters of the act may face criminal or civil penalties, and provision is made for witnessess, informants, and rewards.

The confidentiality required for the permitting process is an important part of this legislation. Information concerning the nature and location of any archaeological resource is treated as confidential in order to protect resources from a risk of harm. Under certain conditions, information may be released to the Governor upon a written request.

[1]P.L. 95-341; 92 STAT. 469; 42 U.S.C. 1996
[2]P.L. 96-95;93 S 721; 16 U.S.C. 470

This Act specifies that the implementing requlations must consider the provisions of the American Indian Religious Freedom Act (92 Stat 469; 42 U.S.C. 1996).

Policy BLM Manual 8100 "Cultural Resource Management"

The 1978, revision of BLM's manual on cultural resource management established the basic objectives, authority, responsibility, definitions, and policy for the Bureau's cultural-resource management program. The objectives of the management program outlined include: to ensure that cultural resources are given full consideration in all land-use planning and management decisions, to manage cultural resources so that the sociocultural values are not diminished, and to ensure that the Bureau's undertakings avoid inadvertent damage to cultural resources.

Bureau policy recognizes that cultural resources are fragile, nonrenewable resources with both scientific and sociocultural values, representing an important and integral part of our national heritage. It states that since the Bureau is responsible for the largest remaining cultural resource base on Federal lands, BLM will develop and maintain the capability needed to manage these resources.

Part 5

Sensitivity and Potential for Mitigation

A number of practical problems arise with the collection of ethnographic data in Federal agencies' operations. Predominantly, these include the maintenance of informant anonymity, restriction of data accessibility, and the translation of Native American values into management guidelines which are consistent with the concerns and desires of the consultant population.

Much of the information which is required for the effective incorporation of Native American values in resource management programs is sensitive. Many areas are of concern to the Native American community for reasons associated with ritual and/or religion. This knowledge is often considered sacred in and of itself. The specific location of religious and ceremonial sites, burials and cremations and other "power places" is often the sort of knowledge restricted, even within the group, to certain Native American experts. In many cases, this knowledge is considered by the Native Americans to be the property of the individual or group maintaining its custodianship. When such information is provided to any agency or institution, it is often still considered by the Native American expert as property shared only for a specific purpose, e.g., protecting the integrity of a site. Information collected from traditional Native experts is considered by these experts to be their exclusive possession and trust.

If the traditional knowledge of Native American informants were subject to distribution and/or public availability, the consequences could be grave indeed. Much of the information collected from these experts pertains exclusively to religious and ritual values. These value systems, as "cultural resources," are subject to potential impacts which are in both degree and kind much different from any other "resources" with which the agency must deal; e.g., minerals, wildlife, energy sources. Cultural resources of this type are subject not only to material destructuion but also indirect desecration of the site without any physical modification or presence at the site. Simply put, public knowledge of what is meant to be sacred and carefully curated knowledge of a few Native American experts could constitute an impact sufficient in magnitude to destroy the sanctity of a site for the Native American community.

Not all sites are considered "sacred" by the Native American community. A large number of resources identified by Native Americans do have ritual or religious significance. The majority of Native American values expressed in

the course of the Bureau's inventory fall into one of three broad analytic categories:[1]

TRADITIONAL USE AREAS

This first category includes all lands currently or historically used for traditional secular and subsistence activities. It includes the collection of foodstuffs, craft materials, herbs, construction and domestic materials, as well as hunting areas. These areas include both lands with a long history of use and lands being used for traditional maintenance activities which, themselves, may have been employed for only a relatively short period of time. Such situations have arisen for a number of reasons. These include:

1. The destruction of the original resource base. This has occurred as a result of urban expansion, grazing, and changes in management policies of the responsible agencies which resulted in destruction of the resources originally exploited by the Native American community.

2. The physical relocation of Native American peoples to reservations. Often such relocations have placed the Native American people beyond the range of accessibility to the originally exploited resource base. This has forced them to locate and develop new areas of resource exploitation to continue their traditional lifestyle.

3. The elimination of the resource base entirely. Most dramatically, some management and development programs of Federal and State agencies have completely eliminated both the territory and resources of Native American populations; e.g., Lake Havasu was once the Chemehuevi Valley and the home of the Chemehuevi and Mojave Indians.

RITUALLY ASSOCIATED LOCALITIES

This second category includes seasonal nonlocatable ceremonial sites in areas related to ritual performance. These sites include sources of ceremonial materials, localities of mythological association, and some localities associated with particular ceremonies which have been relocated in conjunction with seasonal or calendrical activities. These are not specific localities which are "sacred." Many areas which provide the materials for ritual and sacred performance are themselves of great importance. Also, many

[1]These categories are merely theoretical constructs to aid in understanding the relationship of these values to practical management problems. The model outlined here does not reflect any inherent segmentation of Native world view; it is rather a construct developed by staff, contractors, and other professionals who have participated in this data analysis.

ceremonials, such as procreative and purification rites, are associated with the seasonal rounds of many groups. These take place at different specific localities each year (or have done so in the past) in relation to the predominance of the resources being exploited. Such characteristics of the ritual render the identification of single sites of ritual activity a highly inappropriate strategy for the location of "sensitive" areas. We must, to be accurate, refer to large tracts of land within which ritual activities are seasonally mapped onto the distribution of the physical resource base.

'SACRED' AREAS

The final category of Native American concerns pertains to "sacred" areas. An operational definition for this term must be synthesized from the explicit and culturally relevant criteria of the Native American experts from each group. Although the specific catalogue of sites so designated varies markedly between groups, some generic intertribal designations have emerged. These include burials, religious ceremonial sites, certain areas of mythic association, spirit lands, and certain areas employed for healing purposes.

A number of specific measures have been adopted to protect the sensitive resource values of Native Americans. These policies to protect sensitive values are intended to assist Bureau staff in mitigating impacts where possible and controlling access to sensitive data. In the implementation of the plan, these protection and mitigation measures will include the following:

1. All ethnographic files have been numerically coded and circulated within the agency only with file number designations (EN-##). This allows the protection of informant identity. Since much of the data collected by the agency is sensitive and not intended for public release, some of the individuals who have supplied this data have requested the protection of their identity. Often, a difficult choice is involved for them when they consider releasing this data to an agency such as the BLM. The individuals who have supplied BLM with this information are hoping that once informed of the Native American values, we (the agencies) will take steps to protect them. It is this hope which has prompted many Native American experts to share the trust of their traditional knowledge with the Federal ethnographer and the reason for protecting identities.

2. Concentrations of resources have been incorporated into large (State-wide) polygon maps depicting areas of sensitivity for Native Americans. The treatment of the data in this manner provides both a graphic tool for planning purposes while simultaneously protecting the identity of specific site locations. The isolated and more specific localities of Native American concern are being identified in sensitivity narratives for all management polygons in the CDCA Proposed Desert Plan. Interim management documents which are based upon this information have been restricted to in-house use only (unless prior permission for release has been obtained

from the Native American expert who originally supplied the data). Such documents include any identified measures for mitigating impacts to sensitive resource values where such steps are possible and feasible.

Native Americans have been included in the review and recommendation process for all interim management documents which have been issued through the Cultural Resources Staff of the Desert Plan. This has allowed both the verification and elaboration of Native American input in the context of specific project proposals. Further the involvement of Native American experts in the review process has provided a greater rapport between the community and the agency and rectified some of the traditional problems arising from the non-involvement of Native Americans in largescale planning programs.

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